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CANADA

DEPARTMENT OF MINES

GEOLOGICAL SURVEY BRANCH

HON. W. TEMPLEMAN, MINISTER: A. P. LOW, DEPUTY MINISTER; R. W. BROCK, DIRECTOR.

CATALOGUE

OF

CANADIAN BIRDS

BY

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AND

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OTTAWA:
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The Catalogue of Canadian Birds was published in three parts, the first appearing in 1900 and the last in 1904.

In it were enumerated systematically all the known birds of Canada together with the principal facts in regard to their distribution, migrating and breeding habits. The interest taken in this subject by the public was evinced by the reception accorded the catalogue, the stock being exhausted almost immediately after publication. In the present edition much of the matter has been re-written and many additional facts recorded and the whole combined into one volume.

R. W. BROCK.

OTTAWA, Oct., 21, 1909.

DEPARTMENT OF ZOOLOGY University of Toronto

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PREFACE.

In compiling this catalogue the authors have endeavoured to bring together facts on the range and nesting habits of all birds known to reside in, migrate to or visit, the northern part of the continent. In addition to the Dominion of Canada they have therefore included Newfoundland, Greenland and Alaska. The nomenclature and the numbers given in the latest edition and supplements of the Check-list published by the American Ornithologists' Union have been made the basis of arrangement of the catalogue. The order followed in the notes on each bird is, as a general rule, from east to west. Greenland is generally cited first and British Columbia and Alaska last. As the catalogue is intended to be a popular and practical one, the English names of the birds are placed first, but the species are arranged in their scientific order and in accordance with the latest nomenclature. While recognizing the differences upon which many of the technical names have been based, the writer holds that some of them, depending as they do upon local and almost upon individual variations from a common type, possess from any practical or educational standpoint but a minor value. To an investigator of changes resulting from environment such differences are of great interest, but to any one anxious only to obtain the facts in regard to the distribution of our birds as readily determinable, they are unimportant. Until the publication of the first edition of this Catalogue, no attempt had been made to produce a work dealing with the ornithology of the region now embraced in the Dominion of Canada since the publication of the *Fauna Boreali Americana* by Swainson and Richardson, in 1831. In the work referred to the authors include separate notices of all birds that had been recorded north of Lat. 48°. Two hundred and forty species are described and twenty-seven additional West Coast species are added, making a total of two hundred and sixty-seven species known at that date.

The first attempt to catalogue the birds of Canada as a whole was made in 1887, when Mr. Montague Chamberlain, of St. John, New Brunswick, published *A Catalogue of Canadian Birds with Notes on the distribution of the Species.* Previous to this, Mr. Thomas McIlwraith, of Hamilton, Ontario, published his *Birds of Ontario*, which included the birds known to occur in that province

only. The second edition of this work was published in 1894 and included 317 species. The *Birds of Manitoba*, by E. T. Seton, was published by the Smithsonian Institution in 1891, and, as its name implies, covered little more than that province. Mr. C. E. Dionne, of Quebec, published a catalogue of the birds of that province, with notes on their geographical distribution, in 1889, and in 1896 Mr. Ernest D. Wintle published in Montreal a valuable little work entitled *Birds of Montreal*. Mr. John Fannin, the curator of the Provincial Museum in Victoria, British Columbia, published a *Catalogue of the Birds of British Columbia*, the second edition of which was issued in 1898. In this catalogue he included his own extensive knowledge and that of all other observers in the province. Since then a new edition of this Catalogue has been published by Mr. Kermode the present curator of the museum. While others were engaged in gathering and publishing the valuable information contained in the above mentioned works and others of less importance, the writer although attending to other subjects which claimed most of his time had constantly before him the necessity of the present work and has been collecting notes and observations for it during all his journeys since 1879, while his assistant, Mr. J. M. Macoun, has carried on similar work since 1885. The summers of 1879 and 1880 were spent by the writer on the prairies west of Manitoba, the season of 1881 in northern Manitoba, the summers of 1882 and 1883 along the lower St. Lawrence, that of 1884 around Lake Nipigon, of 1885 in the Rocky and Selkirk mountains on the line of the Canadian Pacific railway, of 1887 on Vancouver Island and of 1888 on Prince Edward Island. Mr. J. M. Macoun spent the early spring and summer of 1885 at Lake Mistassini and in 1888 travelled from Lesser Slave Lake east by way of the Athabaska and Churchill rivers to Lake Winnipeg. The notes for the years mentioned above appear under our own names. Practically all observations made by either of us since that time are credited to Mr. William Spreadborough, who since 1889 has accompanied either one or other of us to the field nearly every year and as all the collecting was done by him some confusion and repetition has been obviated by the inclusion of our own observations with his and by the omission of our names for the years he was with us. In some years, notably in 1896, 1898, 1904, 1906 and 1907, Mr. Spreadborough worked quite independently of either of us. It detracts nothing from the importance of other notes published for the first time in this Catalogue to say that its chief value is to be found in the matter credited to Mr.

Spreadborough. His notes, revised by us, cover nearly the whole Dominion from Labrador and Hudson bay to Vancouver island and north to the Peace river. A more detailed statement of the work done in each year will give a better idea of the extent of country covered.

In 1889 Mr. Spreadborough was with the authors for two months at Hastings and Agassiz on the lower Fraser river; the remainder of the season was spent between Spence Bridge and the Columbia river. The next season he began work at Revelstoke, on the Columbia and spent the summer in the mountains south and east. The spring of 1891 found him at Banff in the Rocky mountains before the birds began to move, and he remained there all summer. As Mr. E. T. Seton (then E. Seton-Thompson) had already covered Manitoba with his excellent work, it was considered best for Mr. Spreadborough in the following year to visit Indian Head in the prairie country to the west of that province noting all the migrants, as in previous years, and obtaining skins and recording the summer birds of that district. In the spring of 1893 he began work on Vancouver island and made collections during the whole season. In 1894 the district around Medicine Hat, Alta., and eastward to Crane lake, Sask., was examined and in 1895 the prairie region south of the Canadian Pacific Railway. In all these years Mr. Spreadborough worked under the direction of the writer. The summer of 1896 was spent by him on Hudson bay and across Ungava and in 1897 and 1898 he was in the Rocky mountains, in the former year working with the writer south to Crow Nest Pass, in the latter independently in the Yellow Head Pass. In 1900, again with the writer, the collecting season was spent in Algonquin Park, Ont. During 1901, 1902, 1903 and 1905, Mr. Spreadborough was with Mr. J. M. Macoun; 1901 was spent in the Coast Range, B.C., chiefly around Chilliwack lake; 1902 between Trail and Cascade on the International Boundary; 1903 in the Peace River region and 1905 again on the International Boundary between Cascade and Chilliwack lake, thus completing a traverse of the whole region between the Columbia and the western slope of the Coast Range; the country between Chilliwack Lake and Douglas on the Coast was examined in 1906. The year 1904 was, perhaps, the most important of any, as the early spring was spent by Mr. Spreadborough in the vicinity of Fernie and Elko, B.C., thus connecting the work of 1897 with that of 1902, and the early summer and autumn months on the south and west coasts of Hudson bay where he studied the habits

of the waders and swimmers which frequent that region. The seasons of 1907 and 1908 were spent by him on Vancouver Island.

The chief sources from which published observations and notes have been compiled are indicated in a brief and far from complete bibliography. As regards Greenland and Alaska no attempt has been made to utilize all that has been published. It has been thought sufficient to refer to the most important lists and to include all the species known to occur in these regions. It cannot be hoped that no important omissions have been made in the distribution of Canadian birds, but as the authors expect to publish annually an addendum to this catalogue the necessary corrections will be made from time to time and the co-operation of collectors and observers is solicited for this work.

In addition to the list of authorities cited, manuscript lists and notes on nesting habits have been furnished the writers by Mr. J. H. Fleming, Toronto, Ont.; Mr. W. E. Saunders, London, Ont.; Mr. Geo. White, Ottawa, Ont.; Mr. E. T. Seton, Cos Cob, Conn.; Mr. A. C. Bent, Mr. Walter Raine, Toronto, Ont.; Mr. J. Dippie, Calgary, Alta.; Mr. Robt. Elliott, Plover Mills, Ont.; Mr. P. A. Taverner, Bracebridge, Ont.; Mr. C. R. Harte, Nova Scotia; Mr. Harold Tufts, Wolfville, N.S.; Rev. C. J. Young, Madoc, Ont.; Rev G. Eifrig, Ottawa, Ont.; Mr. J. Hughes-Samuel, Toronto, Ont.; Mr. W. H. Moore, Scotch Lake, N.B.; Mr. Alfred L. Garneau, Ottawa, Ont.; Mr. A. B. Klugh, Guelph, Ont.; Mr. A. F. Young, Penetanguishene, Ont.; Mr. Norman Criddle, Aweme, Man.; Mr. Geo. A. Atkinson, Portage la Prairie, Man.; Mr. E. F. G. White formerly residing in British Columbia, but now at Ottawa; many members of the Geological Survey staff and others who have contributed notes or short lists.

The whole series of the *Transactions of the Natural History Society of Nova Scotia;* the *Bulletin of the Natural History Society of New Brunswick;* the *Canadian Naturalist and Record of Science*, Montreal; the *Ottawa Naturalist;* the *Journal of the Canadian Institute*, Toronto; the *Auk*, published in New York and the *Wilson Bulletin* have been drawn on for notices of rare species and local lists by various contributors.

The greater part of the compilation of the new material for this edition of the Catalogue has been done by my assistant Mr. J. M. Macoun. The very complete index was made by Miss Marie C. Stewart.

JOHN MACOUN.

Ottawa, 15 October, 1909.

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PYGOPODES. Diving Birds.

Family I. **PODICIPIDÆ.** Grebes.

I. **ÆCHMOPHORUS** Coues. 1862.

1. Western Grebe.

Æchmophorus occidentalis (Lawr.)

Accidental in Quebec. Mr. Cowper states in *Canadian Sportsman*, Vol. II, that he has seen several specimens on the market in Montreal. (*Dionne.*) Some time before 1881 a pair was shot at the mouth of the North Nation river, Ont. (*Ottawa Naturalist, Vol. V.*) Occasionally shot in the Red River valley, Man. One pair seen at a little lake west of Macleod, Alta. (*W. Saunders.*)

Our knowledge of the migration of the western grebe is still incomplete, but on May 8th, 1891, specimens were shot at Banff in the Rocky mountains. The next year it reached Indian Head, 500 miles to the east, on May 12th. At that time the stomachs of the birds shot contained nothing but feathers. Two days later one was shot that had an amphibian (*Amblystoma mavortium*) 10½ inches long in its stomach. By the 30th May they had all disappeared, having gone north to Waterhen, or some other lake, to breed.

Going west from Portage la Prairie in 1906 I did not note it until we reached Touchwood hills but from that to Edmonton it was noted in all the larger waters. I am of opinion that many of the Manitoba and eastern records would on investigation prove to be the Holbœll grebe. There appeared to me, however, to be a peculiar weirdness about the call of this bird, noted and identified as the western grebe, which readily distinguished it from the succeeding species. (*Geo. Atkinson.*)

A common winter resident along the Pacific coast. (*Fannin.*) Tolerably common in the Fraser valley below Yale in the spring and autumn migrations. A few remain all winter at Okanagan lake, B. C. (*Brooks.*) Six were seen on Bayne lake, near Elko,

B.C., May 2nd, 1904. (*Spreadborough.*) Several seen at Bocadequadra, near Dixon inlet, B.C., May 28th, 1899. (*Bishop.*)

Breeding Notes.—Fairly numerous on Buffalo lake, Alberta, July 7th, 1895; downy young taken at the same time. (*Dippie.*) I have found this bird breeding at Shoal lake, Manitoba. The nests found June 18th, 1894, mostly contained five eggs each. (*Raine.*) Early in June, 1894, a large colony of these birds was found breeding at Crane lake, Sask., about 100 miles east of Medicine Hat. The colony was located in a large patch of bullrushes (*Scirpus lacustris*) about 100 yards from the shore and in about three feet of water. The eggs were placed on nests made of mud and the old and broken reeds of the last season; these nests were very rudimentary in form, but in all cases there was a slight depression in the centre where the eggs rested, about six inches above the water. None of the nests had more than five eggs, most of them but four, which seemed to be the usual number. The nests were so placed that they would rise and fall with the water, as indeed is the case with all grebes. No other birds were breeding in the vicinity and the water around the breeding ground was swarming with individuals which dived, swam, or sunk themselves in the water so that nothing but their curving necks and long sharp bills protruded above it. They doubtless breed on many other lakes in Saskatchewan and Alberta. It is claimed to be a summer resident in British Columbia by Streator and Fannin, but neither of them cites a locality. Found in 1881 in great numbers breeding in some of the western bays of Lake Manitoba and on Waterhen river and Waterhen lake.

II. COLYMBUS Linnæus.

2. Red-necked Grebe. Holbœll Grebe.

Colymbus holbœllii (Reinh.) Ridgw. 1884.

This is a very widely distributed species and extends as a straggler from Greenland across the continent to the North Pacific.

This bird arrived in Wales sound, Hudson strait, about June 20th, 1885, and was often seen during the summer. (*Payne.*) Common in northern part of James bay. (*Spreadborough.*) It is a rare migrant in Nova Scotia (*Downs*); occasionally seen in New

Brunswick (*Chamberlain*); large flocks seen on Prince Edward island, August 8th, 1888 (*Macoun*); Beauport, Quebec. (*Dionne.*) Seems to be common in Ontario. It has been taken at Ottawa. (*Ottawa Naturalist, Vol. V.*); at Mitchell Bay, Lake St. Clair. (*Saunders.*) Is a regular spring and fall visitor in Ontario. (*McIlwraith.*) A male of this species was taken on the Ottawa river near Ottawa, Oct. 16th, 1905. Its stomach contents consisted of a bunch of its own feathers. (*G. Eifrig.*) Spring and fall resident at Toronto, Ont. (*Fleming.*) Summer resident chiefly of the shallow fish-frequented lakes of northern Manitoba. (*E. T. Seton.*) Breeding in great numbers in Waterhen lake and the southern end of Lake Winnipegosis. It is found on most lakes of the prairie region but prefers the lakes in the forest country north of the Saskatchewan. In 1892 it arrived at Indian Head in eastern Saskatchewan on May 11th. At that time their stomachs contained feathers, water-insects and one a specimen of *Amblystoma mavortium* seven inches long. It has been found breeding by Macfarlane in Lat. 68° 30′, Long. 128° west, so that its breeding grounds extend from Lat. 50° to the Arctic sea. Nelson states that it breeds on the Yukon and at Norton sound, and Fannin that it breeds throughout northern British Columbia, so we may conclude that its breeding grounds are co-extensive with the lakes of the northern forest. It is a winter resident along the Pacific coast of British Columbia. On April 27th, 1887, it was seen in large flocks in Nanaimo harbour and along the whole coast to Comox. A few days later they all disappeared. Reported by Brooks to be a common winter resident on Okanagan lake, B. C.

Common on all lakes from Lesser Slave lake to Peace River Landing, Atha.; one pair seen at Elko, B.C., May 12th, 1904; common at Lake Okanagan, B.C., April, 1903; common and breed- at Osoyoos lake, B.C., June, 1905; common at Douglas, B.C. (coast), April 20th, 1906, bulk had disappeared, May 10th. (*Spreadborough.*) Abundant and breeding on nearly every pond and lake in Cariboo district, B.C. (*Brooks.*) A fine adult of this species was taken at Nushagak, Alaska, October 12th, 1881, by McKay. Another was taken at Point Constantine, Bristol bay, Alaska, May 30th, 1882. (*Osgood.*) One male taken at St. Michael, Alaska, Sept. 22nd, 1899. (*Bishop.*)

BREEDING NOTES.—Common at Indian Head, Sask., in the spring of 1892. Breeding in pairs in the reeds along the margins of the lakes. Early in June a nest was taken containing eight eggs of a dirty white colour. Nests made of reeds, grass and mud, floating in the water, attached to the growing reeds or masses of dead vegetable matter. (*Spreadborough.*) Breeds along the margin of Snake lake, Alberta. (*Dippie.*) At Shoal lake, Manitoba, on June 9th, 1894, I found this species breeding abundantly. The nests contained an average of five eggs each. All the nests had the eggs covered with weeds, which is the usual habit of this family, for all the grebes cover their eggs in the daytime, but when suddenly disturbed from their nests the birds have not time to take this precaution. Two or three pairs breed on Long lake, Manitoba, and this species also breeds abundantly at Gull lake, northern Alberta (*Raine.*) My notes record but two nests of this grebe, one contained four and the other five eggs, and both were found at a distance of some 40 or 50 miles south of Fort Anderson. (*Macfarlane.*)

3. Horned Grebe.

Colymbus auritus LINN. 1766.

A few immature specimens have been taken in southern Greenland. (*Arct. Man.*,) Taken occasionally in Nova Scotia. (*Downs.*) An uncommon summer visitant in New Brunswick. (*Chamberlain.*) A few taken in Quebec. (*Dionne.*) One seen in a small pond at East point, Magdalen islands, N.S., 1887; undoubtedly breeds. (*Bishop.*) Rather common at Plover Mills, Ont., in September and October. (*R. Elliott.*) Common resident in spring and fall near Toronto, Ont. (*J. H. Fleming.*) Generally distributed in Ontario, breeding notably on St. Clair flats. (*McIlwraith.*)

Saunders and Morden found this bird breeding abundantly at St. Clair flats, Ontario. Seton says it is very common in Manitoba, breeding in all the small ponds, and Macfarlane procured eggs on the borders of a small lake about 60 miles southeast of Fort Anderson, north of the Arctic circle. Dr. Bell found it breeding at Fort Churchill on Hudson bay, and Nelson and Turner say that it breeds in Alaska. Several small grebes assumed to be this species were seen at the upper end of Becharof lake by Osgood; McKay, took a specimen at Nushagak, Alaska, 1881.

Brooks found it on Okanagan lake, B.C. during the whole winter. The writer has found it breeding from Manitoba to Kamloops in British Columbia, so that its breeding ground covers practically the whole northern part of the continent. Spreadborough saw it on most of the small lakes between Lesser Slave lake and Peace River Landing in 1903, saw three on Elk river, B.C., April, 22nd, 1904, common at Bayne lake, May 10th, 1904, and at Douglas, B.C., April, 1906. Nearly all had left the latter place by May 10th.

Breeding Notes.—Breeds commonly around all small lakes in Alberta. (*Dippie.*) Common at Crane lake in June, 1894. Breeding in pairs in all the marshes and sloughs. Nests composed of reeds, grass and mud, attached to the reeds, or on floating masses of sticks and sedges. They were also common at Indian Head, Sask., and at Bracebridge, Ont. (*Spreadborough.*) On June 15th, 1893, I found a colony of this grebe nesting on an island in a small lake seven miles north of Rush lake, Sask.; I have also found it breeding at Long lake and Shoal lake, Manitoba. This species lays from five to eight eggs, five or six being the usual number. A few pairs breed at St. Clair flats, Ont. I have received several clutches of eggs from there. (*Raine.*) Breeding on all ponds and marshes near Prince Albert, Sask. (*Coubeaux.*) Breeds on interior lakes of B.C. as far south as Ashcroft. (*Rhoads.*)

This most beautiful of the grebe family is generally distributed about the marshes and ponds all over Manitoba and was noted quite as abundantly at every suitable point along the Grand Trunk Pacific railway as far as Edmonton. Nests containing fresh eggs were found at Sydney, Carberry, Hamiota and Spy hill while from that westward after July 1st the chicks and parent birds were noted in almost every fresh water pond or marsh. (*Geo. Atkinson.*)

This is a northern species, and rarely breeds in the St. Lawrence valley. I found a nest containing two fresh eggs at Escott pond, Leeds co., Ont., 29th May, 1890; also four eggs at the St. Lawrence on the 18th June, 1896. On the occasion of my visit to the Magdalen islands, in June, 1897, I met with three pairs of this bird in a large pond of water—which at times is brackish—near the East point, and discovered a nest with two fresh eggs on June 22nd. This nest exactly resembled the one I found on Escott

pond. It was constructed in an exposed position amongst a few rushes, scarcely concealed at all, and the decayed vegetable matter of which it was made was completely soaked with water. The birds are readily identified, but most of the eggs present no obvious difference from those of the pied-billed grebe; a few of them, however, are longer and a trifle larger. (*Rev. C. J. Young.*) Breeds in the St. Clair marshes, and in smaller numbers in marshes at Point Pelee, Lake Erie. (*W. Saunders.*)

On June 15th a few nests were seen in a marsh near Crane lake, Sask. This species, so far as I know, does not breed in colonies, and Mr. W. Saunders writes me to the same effect. The nests at Crane lake were placed on small mounds of mud on reeds floating on the water, and three taken contained four, five and eight eggs respectively.

4. American Eared Grebe.

Colymbus nigricollis californicus (HEERM.) RIDGW. 1885.

A specimen in the flesh sent to Dr. Yarmir of Lucknow, Bruce co., Ont., from Colpoy bay, Lake Huron. (*McIlwraith.*)

A common summer resident in Manitoba, breeding in great numbers in many of the lakes and ponds. They make their nests on rushes, composed of the same material. We found as many as six eggs in some nests, but in the greater number of nests only four. (*E. T. Seton.*) This bird is found in all parts of the prairie region where there is suitable water and cover; it occurs as far north as Great Slave lake, (*Ross*) and is found all through the southern part of British Columbia. Unlike the horned grebe it breeds in colonies or groups of a dozen or more nests and we have often looked down on them in the small lakes of the interior as they sat on their nests with the water all around them. In nearly all cases the eggs were partly covered by water. Coubeaux says this species is much rarer than the horned grebe on the Saskatchewan.

BREEDING NOTES.—I have found this species breeding abundantly at Long lake and Shoal lake, Manitoba. On June 9th, 1894, I found a nest containing as many as nine eggs at Shoal lake, but six or seven is the usual number of eggs laid. (*Raine.*) Breeding in numbers at Burnt lake, Alberta. A number of sets taken June 14th and 15th, 1896. (*Dippie.*) Saunders counted 500 birds in an arm of

Big lake, 50 miles east of Calgary in 1906. There were many nests, perhaps 200. Breeding in colonies in sloughs in many parts of the prairie region and British Columbia. Found breeding in lakes at Kamloops, B.C., June 16th, 1889. On June 13th, 1894, saw hundreds of nests in a marsh at the west end of a small lake east of Crane lake, Sask. The nests were composed of rushes and mud, floating amongst the rushes in about two feet of water. Most of the nests had three eggs in them, others four, and some five, while many had one and two. Evidently the sets were, in many cases, not complete. The outer margin of the pond was chiefly sedge (*Carex aristata*) but within was a growth of bullrushes (*Scirpus lacustris*), and on the old stems of these, nests were made. The floating nests were almost on a level with the water, and not infrequently the eggs lay partly in the water. No down or feathers was ever seen about the grebe's nest. Another colony was seen on a small lake in July, 1895, on the Milk River ridge, Alberta. The nests were all floating and the eggs could be easily seen from the shore, which was high.

III. **PODILYMBUS** Lesson.

6. Pied-billed Grebe. Dab-chick. Hell-diver.

Podilymbus podiceps (Linn.) Lawr. 1858.

Occasionally obtained in the autumn in Nova Scotia. (*Downs.*) Uncommon fall migrant in Nova Scotia. (*H. F. Tufts.*) A common summer visitant in New Brunswick; breeds. (*Chamberlain.*) Rather common in Quebec. (*Dionne; Hall.*) Quite widely distributed in Ontario, but most common in the autumn. Breeding from the St. Lawrence and the Great Lakes to Hudson bay and west to Great Slave lake. Abundant in all parts of Manitoba and specially numerous in August and September on the headwaters of Swan river and the surrounding lakes and marshes. Although so common in the wooded portions of Manitoba it has seldom been observed in the prairie region. One individual was seen near the Dirt hills, Sask., in October, 1881, by Mr. W. Spreadborough, and Dr. Coues saw it at Turtle mountain, Sask. Lord, Fannin, Rhoads, Spreadborough and Brooks report it as common in British Columbia. Spreadborough reports seeing three in Victoria harbour, B.C., in April, 1893. It is evidently a forest

bird as it is seldom seen on the prairies. Rhoads states that it breeds throughout the mainland of B.C. and on Vancouver island.

Breeding Notes.—I have found this bird breeding at Long lake, Manitoba, and, like the eared and horned grebes, it often lays as many as seven or eight eggs. I find that all the grebes cover their eggs with weeds during the day, and the weeds are removed at dark by the bird, which incubates the eggs until the morning sun relieves her of her task. (*Raine.*)

This species commences to build its nest near Ottawa, Ontario, about the first week in May. The nest is built on the edge of a marsh and is about the size of a bushel basket. It is composed of moss, grass, roots and mud. Eggs, five or more in number, are whitish, clouded with green. The nest is very difficult to find, as the old birds cover it over when they leave. (*G. R. White.*)

The dab-chick was conspicuous in 1906 in every pond and marsh of any size between Portage la Prairie and Edmonton, and where it was not seen floating about its characteristic "pomp pomp" made its presence known. During the summer we were able to note the gradual development of the bird from the egg to the full grown specimen and of all the birds noted none attracted more constant attention and interest than the little water witch. I noted that where the birds were in a marsh the young hid themselves and the parents gradually sunk themselves below the surface of the water and disappeared but where they were found in small ponds with no marsh the parent birds remained on the surface to watch the young and in more retired localities they showed little concern at our presence. In the marshes about Portage la Prairie it is one of the most numerous breeding species, the floating nests being everywhere conspicuous. I have not found this grebe covering the eggs during the day, as recorded, to assist incubation but have regularly noted the bird flap a considerable quantity of the decayed reed foundation over the eggs as though to hide them when flushed from the nest and I have regularly noted and disturbed the birds sitting on the eggs during the day even while the sun was high and warm. (*Geo. Atkinson.*)

Found a nest on a floating mass of dead rushes, in Lake St. Francis, near Summertown, Ont., June 6th, 1903. It held five

eggs partially covered with rushes laid lengthwise of the nest (*Lewis M. Terrill.*)

The pied-billed grebe is very common in the River St. Lawrence between Kingston and Brockville. I have seen a number of nests. The nest of this species is a more substantial structure and better concealed than that of the horned grebe. In one instance I have known a colony breeding together; this was on June 1st, 1897, where in a space less than a quarter of an acre, in a retired bay off the St. Lawrence below Rockport, I found four nests close together—one with seven eggs, one with eight, and two with nine. These nests, though floating structures, were quite substantial, and were in about three feet of water; all the eggs were covered with weeds and were incubated from a week to ten days. Nowhere else have I found more than eight eggs in the nest, and that number only once. The usual number is seven. (*Rev. C. J. Young.*)

This species is more common on the St. Clair flats and at Point Pelee than the horned grebe. Both species build a floating nest among the rushes, and both cover their eggs when they leave the nest. Set 4-6. (*W. Saunders.*)

Family II. **GAVIIDÆ.** Loons.

IV. **GAVIA** Forster. 1788.

7. Great Northern Diver. Loon.

Gavia imber (Gunn.) Allen. 1897.

This is one of our most widely distributed birds, breeding from Greenland (*Arct. Man.*) and Labrador (*Bigelow*) in the east, to Alaska (*Turner, Bishop* and *Osgood*) in the west. Macfarlane found it breeding at Fort Anderson, in Lat. 68° 30′, and it is frequent as far south as Lat. 49°, so that it is to be found throughout the whole northern part of the continent. Nearly every small lake throughout the country, except in the prairie region, is tenanted in summer by a pair or more of these birds, and the larger lakes by many pairs, but as the country is settled it is becoming scarcer. All the members of the Geological Survey staff who have found loons' nests agree with Macfarlane

that they lay only two eggs, and that no nest is built, but a small depression made in the gravel close to the waters of the lake. In the Laurentian country the eggs are always placed on greenish gravel and are hard to see. In two cases only have nests been found on rock and these were close to the water.

Breeding Notes.—Nest always placed near the water, and composed of a little grass. Eggs two. Young usually hatched the last week in June or first week in July. The young are quite helpless for a few days, either riding on the mother's back or hanging on to her tail. I have paddled up to them in a boat on several occasions, and they have sat upon the water as helpless as a leaf until I have taken them up in my hand. They soon become able to take care of themselves and can swim and dive nearly as well as the old one. Common throughout Labrador; one nest found, July 25th, 1896, on Clearwater lake, containing two eggs in an advanced state of incubation. (*Spreadborough.*)

This bird breeds at the south end of Lake Manitoba. I have also received the eggs from Morley in Alberta. It breeds commonly on the islands in the Muskoka lakes, Ontario. A clutch of two eggs in my collection was taken on an island in Lake Donaldson, near Buckingham, Quebec. The eggs were taken June 24th, 1895, by Mr. Warwick. This bird is a late breeder. (*Raine.*)

The nest of this species, if nest it can be called, is only a slight hollow in the earth or ground within a short distance of the water's edge. One found on the 21st June, 1897, at Lake of the Woods, was within six inches of the water's edge. It was only a slight hollow in the sand, and the two eggs were placed therein. (*G. R. White.*)

The loon still breeds in many of the retired lakes, and a pair or two frequent the River St. Lawrence for this purpose between Kingston and Brockville. I have found many of their nests and noticed that they return to the same locality year after year even when their eggs have been repeatedly taken. The situation chosen varies; sometimes it is on the shore of some out-of-the-way island, two or three feet from the water's edge. Several nests I found consisted of a mass of weeds and bullrushes piled up in three feet of water, so that a boat could be rowed alongside. They are very punctual in their time of laying; in one locality in the

county of Leeds, Ont., I have found the two eggs four years in succession on the 23rd, the 24th, the 25th and the 24th of May. On the River St. Lawrence a little later, from the 1st to the 6th of June. By the great resemblance each set of eggs has borne to the preceding one, I have no doubt but that the same pair of birds returns to the same locality year after year. They generally arrive at the end of April and leave again in September or October. I noticed two pairs of these birds at the Magdalen islands in June, 1897, and think they breed on the fresh-water ponds of the eastern islands. (*Rev. C. J. Young.*)

Found breeding at Lake St. Clair and in the small lakes in the Bruce peninsula ; also at the Pelee marsh, Lake Erie. Nest at the edge of the water but on a solid foundation. Eggs, two. (*W. Saunders.*)

8. Yellow-billed Loon

Gavia adamsii (Gray) Allen. 1897.

Abundant at Great Slave lake. (*Ross.*) During the breeding season this species abounds in Franklin and Liverpool bays, on the Arctic coast, where several examples were shot. (*Macfarlane.*) One specimen taken at Comox, Vancouver island, by Mr. W. B. Anderson ; seen also at Victoria by Mr. Fred. Foster. (*Kermode.*) This fine species, the least known of the loons, is not a rare summer resident about the head of Kotzebue sound. (*Nelson.*) Twelve specimens taken near Point Barrow. (*McIlhenny.*) A large loon, either this species or *G. imber* was killed and eaten by natives at Cold bay and an immature specimen is in the National Museum at Washington collected at Igushik, across the river from Nushagak, Alaska, September 1st, 1882. (*Osgood.*) One specimen killed by Townsend on St. Paul island, Bering sea, August, 1885. (*Palmer.*) St. Matthew island, Bering sea, 1891. Probably breeding. (*J. M. Macoun.*) This species seems to prefer the extreme northwesterly part of the continent and islands from Liverpool bay on the east to the mouth of the Yukon on the west.

Breeding Notes.—Selawik lake and Kunkuk river are the places where it is claimed the greater number breed. The shore of Norton sound is a breeding place for a few pairs, as is the low

coast of Bering strait from Golovina bay to Port Clarence. (*Nelson.*)

9. Black-throated Loon.

Gavia arcticus (Linn.) Allen. 1897.

Occasional on the coast of Labrador but apparently common on the shores of Hudson bay, where they breed.

Male and female, and young nearly full grown, shot on Nottingham island, Hudson strait, August 28th, 1884. (*R. Bell.*) On the Barren Grounds below Cape Eskimo, August 4th to August 13th, 1900, this species was abundant on the shallow ponds on the tundra where the young are raised. (*Preble.*) Very common in the waters of Roes Welcome, especially on the east side along Southampton island. Seen in the bays of Baffin island. Breeds abundantly on Southampton ; nests built on islands or along the swampy edges of ponds not far from the coast. Feeds in the sea. (*A. P. Low.*) Not common at Lake Mistassini, but a few breed. (*J. M. Macoun.*) Occurs in winter at Grand Manan in the Bay of Fundy. (*Herrick.*) A pair was taken near Toronto and sent to the Paris Exhibition of 1866. (*McIlwraith.*) Recorded by Andrew Murray from Severn House, Hudson bay. (*E. T. Seton.*)

This species is known to breed on the margin of small lakes, and very likely also close to the sea, from Cumberland gulf on the east (*Kumelin*) along the whole Arctic coast (*Richardson*), and very abundantly along the shore of Bering sea and in the interior of Alaska as far as Fort Yukon. (*Nelson.*) A few have been taken at Burrard inlet, B. C, ; also at Dease lake, Cassiar, B. C. (*Fannin.*)

Breeding Notes.—In spring the black-throated loons arrive rather late, coming to the vicinity of the Yukon mouth from the 15th to 25th May. They appear singly, and are soon after found scattered in pairs among the numberless ponds in the marshes along the coast. The eggs are usually placed upon some small islet in a secluded pond. There is no attempt at a nest, and frequently the eggs lie in a spot washed by water when the wind blows from the right quarter. In spite of this, however, the young are duly hatched, and by the first of July may be found swimming about with their parents. The eggs are dark olive,

blotched with black spots, which are generally confluent at the larger end. Very frequently the spots are crowded into a black patch at the very apex of the larger end. (*Nelson.*)

10. Pacific Loon.

Gavia pacificus (LAWR.) ALLEN. 1897.

A single specimen obtained at St. Michael, Alaska, August 25th, 1876. (*Turner.*) Quite common at Point Barrow, and evidently breeding. The greater number, however, pass to the eastward. (*Murdoch.*) North to Arctic coast. (*Ross.*) Only once observed this bird in the lower Fraser valley, during very cold weather, and shot it. (*Brooks.*)

BREEDING NOTES.—This is the most abundant diver in the region investigated. Nests were discovered in the wooded country, in the Barren Grounds, and on the shores and islands of the Arctic sea. In all about one hundred and sixty-five nests, most of which contained two eggs, were secured in the course of the five seasons from 1862 to 1866 inclusive. (*Macfarlane.*) This species arrives early in June at Point Barrow, and, as the ponds open, the birds make themselves at home there, and evidently breed in abundance though we were unable to find the nest. One of their breeding grounds was evidently a swampy lagoon, some five or six miles inland, but the nests were inaccessible. *(Murdoch.)*

11. Red-throated Loon.

Gavia lumme (GUNN.) ALLEN. 1897.

This species is a common summer migrant throughout the northern part of the continent. It breeds in Greenland in both inspectorates *(Arct. Man.)*, and in Newfoundland in small ponds in the marshes, placing its nest in a tussock of grass surrounded by water. *(Reeks.)* Not common on Ellsemere island. *(E. Bay.)* Common along the shores and islands of Hudson bay and Hudson strait, to the northward of James bay. Seen on the north coast of Greenland and in all the northern waters. Breeds on islands or shores of ponds, not far from coast. Feeds in the sea and fresh water. *(A. P. Low.)* A not uncommon summer resident in New Brunswick. *(Chamberlain.)* Rare migrant in Nova Scotia. *(H. F. Tufts.)* Abundant in Labrador, and breeding around

Hudson bay and westward, north of the Arctic circle, to Alaska, where it is the most abundant species of loon. *(Nelson.)*

Two specimens were taken in Esquimault harbour, Vancouver island in March, 1891; in my experience this bird is rare in British Columbia. *(Fannin.)* Osgood, Grinnell and Bishop record this species from many places in Alaska.

It is rarely met with in Quebec, Ontario or Manitoba, though Fleming records it as not uncommon at Toronto, Ont. Has not been observed in the prairie region or the Rocky mountains except by Spreadborough at Lesser Slave lake, Atha., in 1903.

Breeding Notes.—From the first of June until the first of July fresh eggs may be found, The nesting sites chosen are identical with those of the black-throated species. Like the latter species, also, the eggs, two in number, are laid directly upon the ground, and the spot chosen is often wet and muddy. One nest was found on frozen ground, and ice was floating in the pond. The young are led to the streams, large lakes, or sea-coast as soon as they are able to follow the parents, and they fall an easy prey to the hunters until with the growth of their quill-feathers they obtain some wisdom. *(Nelson.)* Nests in small ponds inland in northeastern Labrador. Appears on the coast after the young are able to fly, when it is rather common. *(Bigelow.)*

Family III. **ALCIDÆ.** Auks, Murres, Puffins.

V. **LUNDA** Pallas. 1826.

12. Tufted Puffin.

Lunda cirrhata Pall. 1826.

This species is tolerably common along the coasts of Vancouver island and the mainland of British Columbia; breeds in the Gulf of Georgia. *(Fannin.)* It is a common species along the whole coast of British Columbia and Alaska and breeds in suitable localities for nearly the whole distance. Turner says it is particularly abundant on the Aleutian islands and the whole Alaskan coast. Breeds amongst rocks and lays only a single egg. They nest usually on damp earth at the bottom of a crevice in the rock. *(Nelson.)* Common on the Pribilof islands. *(J. M. Macoun.)* Two specimens taken at Cape Lisburne, Alaska. *(McIlhenny.)*

Breeding Habits.—The nesting habits of this puffin resemble those of the horned puffin. My own observations show that the former prefers the cliffs and edges of bluffs overgrown with grass which has made an accumulation of soil on the tops and edges of some bluffs to a depth of several feet. This soil is a perfect network of holes and burrows of these birds. The nest is usually the bare earth, whereon a single egg is laid. The young take to the water before they are able to fly. The parent assists the young to the water. *(Nelson.)* A moderate sized breeding colony was found on an islet in Houston Stewart channel, Queen Charlotte islands, B. C. *(Osgood.)* Swarming by thousands and breeding on St. Lazaria island, Sitka, Alaska. Every grassy bank on the sides of the island was riddled with their burrows. On June 17th these burrows contained fresh eggs and on July 7th the eggs contained large embryos. *(Grinnell.)*

In most cases, perhaps, the single egg is laid on the bare rock but I found a nest on Walrus island on Aug. 7th which contained a single incubated egg. This nest was placed between boulders, was open to the sky and was made of dry sea-weeds and sea-ferns. It was quite large, about fifteen inches in diameter, scanty in material, and was practically bare in the centre. *(Palmer.)*

VI. **FRATERCULA** Brisson. 1760.

13. **Puffin.**

Fratercula arctica (Linn.) Schaff. 1789.

This species breeds from the Bay of Fundy northward to the islands in Disco bay, Greenland. It is not recorded from Hudson bay.

Found breeding in numbers at Bryon island, one of the Magdalen islands; in large numbers on Bird rocks; also at Wreck bay, Anticosti, and on Parroquet island, hear Mingan harbour. *(Brewster.)* Resident, found breeding at Seal island, Yarmouth co., N. S., June, 1906. (*H. F. Tufts.*) Common on Greenland coast up to Lat. 70° at least; breeds plentifully on the Hunde and Green islands, Disco bay. (*Kumelin.*) A young bird of this species was shot on the Ottawa river towards the end of October, 1881. (*Ottawa Naturlist, Vol. V.*)

VIII. PTYCHORAMPHUS Brandt. 1837.

16. Cassin Auklet.

Ptychoramphus aleuticus (Pall.) Brandt. 1837.

Pacific coast of North America from the Aleutian islands to Lat. 49°. *(A. O. U. List.)* Breeds on the Aleutian islands and is rather common on some of them. *(Turner.)* This species was seen in the Gulf of Georgia between Salt Spring island and Nanaimo and one shot May 7, 1887. *(Macoun.)* Seen in numbers and one shot on Queen Charlotte sound. *(Dr. G. M. Dawson.)*

IX. CYCLORRHYNCHUS Kaup. 1829.

17. Paroquet Auklet.

Cyclorrhynchus psittaculus (Pall.) Stejn. 1884

A single adult male was taken at Sitka, Alaska, June 8th, 1897, by Mr. Frobese and presented to me. It was the only one seen. (*Grinnell.*)

This species is extremely common in Bering strait and southward through the whole length of the Aleutian islands as well as on the Pribilof islands, St. Matthew and St. Lawrence islands. *(Nelson,)* Abundant on the Aleutian islands, and breeds in all suitable places. *(Turner.)* Common on the Pribilof islands. (*J. M. Macoun.*)

Breeding Notes.—It comes to the Pribilof islands early in May, mute and silent, locating its nest in a deep chink or crevice of some inaccessible cliff, where it lays a single egg, of a pure white colour and oblong-ovate in shape, on the bare rock or earth. (*Elliott.*) On Walrus island they lay their solitary egg under the boulders like the puffins. The burrows on St. Paul island, as far as I saw, were excavated in the volcanic cinders overlying the rocky bluffs so that the entrance was always at the edge of the cliff with the rock as a floor. *(Palmer.)*

X. SIMORHYNCHUS Merrem. 1819.

18. Crested Auklet.

Simorhynchus cristatellus (Pall.) Bonap. 1838.

Breeding in great numbers on the islands in Bering strait, but their breeding grounds are the whole of the Aleutian islands ;

nesting on cliffs among loose stones, only one egg to each bird. *(Nelson.)* Only observed on two occasions at St. Michael; in considerable numbers at Bristol bay, Alaska; and among the Aleutian islands extremely abundant. *(Turner.)* Found in numbers on the Pribilof islands. (*J. M. Macoun.*)

Breeding Habits.—This bird makes its appearance early in May and repairs to chinks and holes in the rocky cliffs, or deep down below rough basaltic shingle or a large boulder, to deposit its egg, upon the bare earth or rock. Its egg is pure white and rather rough with frequent discolorations. (*Elliott.*)

19. Whiskered Auklet.

Simorhynchus pygmæus (Gmel.) Brandt. 1869.

Coasts and islands of the North Pacific from Unalaska through the Aleutian chain to Kamchatka. (*A. O. U. List.*) Breeds abundantly on the Nearer and Commander islands. (*Nelson.*) Breeding on Atka island, 1879. (*Turner.*)

20. Least Auklet

Simorhynchus pusillus (Pall.) Coues. 1862.

Coasts and islands of the North Pacific, from Sitka and Japan northward. (*A. O. U. List.*) The most abundant water-fowl in Bering sea. Breeding in immense numbers on the Aleutian islands. It lays a single white egg under loose boulders in a crevice on the cliff. (*Nelson.*) Common along the whole chain of Aleutian islands and as far east as Kadiak; abundant on St. George island in Bering sea. (*Turner.*) One specimen taken at Point Barrow, Alaska. (*McIlhenny.*)

Breeding Notes.—They breed in greatest numbers on about five miles square of basaltic shingle on St. George island. They make no nest, but lay a single egg far down below, amongst the loose rocks. The pure white egg is exceedingly variable in size and shape, usually oblong-oval with the smaller end pointed. (*Elliott.*) A very full description of this bird and its habits is given by Palmer in his "Birds of the Pribilof Islands."

XI. SYNTHLIBORAMPHUS Brandt. 1837.

21. Ancient Murrelet. Grey-headed Auk.

Synthliboramphus antiquus. (Gmel.) Brandt, 1837.

St. George island, one of the Pribilof group, and at Sitka; breeds abundantly on the Nearer islands where a few are resident; also at the Chica islets, in Akutan pass, near Unalaska. (*Nelson.*) One specimen obtained at Atka island, June 12th, 1879; breeds in holes made in the turf in the northeast part of the island. (*Turner.*) Sitka bay, Alaska. (*Dr. Bean.*) One specimen taken at Cape Beale, on the west coast of Vancouver island in November, 1888. (*Fannin.*) Not common; west coast of Vancouver island and taken in the straits near Victoria. Rev. J. H. Keen reports it rare on Queen Charlotte islands. (*Kermode.*)

Breeding Habits.—I have a series of 20 eggs of this bird that were taken on Sannak island, Alaska, on June 26th, 1894. Up to that time very few eggs of this bird had been taken. Mr. Littlejohn found the nests under bunches of rank, matted grass, the nests consisting of a slight excavation, and the eggs resting on a few blades of grass. The eggs of this species consist of two to the clutch and are unlike the eggs of any other sea-bird. The ground colour is a deep buff, with small longitudinal markings of light-brown and lavender-grey, size, 2.35 x 1.45. The bird sits close on its eggs and in some cases has to be forced off the nest with a stick. (*Raine.*)

I was informed that this species breeds plentifully on Atka island, one of the Aleutian islands. They breed in holes made in the turf or sod overhanging the brow of the cliffs. (*Turner.*)

XII. BRACHYRAMPHUS Brandt. 1837.

23. Marbled Murrelet.

Brachyramphus marmoratus (Gmel.) Brandt. 1837.

Large numbers of this species were taken at Sitka by Bischoff; Dall found them in the Aleutian islands; and the writer found them near Unalaska in May, 1877. They probably reach their northern limit in this chain, where they breed. (*Nelson.*) Common and breeds on several of the islands of Kachimak bay, Alaska.

(*A. J. Stone.*) Found in small flocks in Sitka bay, Alaska. (*Dr. Bean.*) One adult male taken at Orca, Prince William sound, Alaska. (*Grinnell.*) An abundant resident along the coast of British Columbia; breeds on Vancouver island and on some of the smaller islands in the Gulf of Georgia and on inlets of the mainland. (*Fannin.*) Abundant in Burrard inlet, B.C., in April, 1889; shot on Barclay sound, Vancouver island, August, 1887. (*Macoun.*) Common in the bay at Douglas, B.C., April, 1906. (*Spreadborough.*)

24. Kittlitz Murrelet.

Brachyramphus brevirostris, VIGORS 1828.

The first example of this rare bird known to exist in any American museum was secured by the writer in Unalaska harbour the last of May, 1877. (*Nelson.*) One specimen was obtained April 24th, 1879 at Iliuliuk village, Unalaska island—said by the Indian who brought it to me to be abundant throughout the year at Sannak island, breeding there: not rare on Amchitka island and in the neighbourhood of Old harbour, on Atka island, Aleutian islands. (*Turner.*) One adult male in breeding plumage was taken by Stone opposite Homer, Alaska, 1903. This capture appears to extend the known range of this species some 700 miles to the eastward, it apparently not having been previously recorded east of Unalaska. (*Chapman.*) Three specimens of this rare murrelet were taken by C. L. McKay at Point Etolin, near Nushagak, Alaska, April 3rd, 1883. (*Osgood.*)

BREEDING NOTES.—The native who brought me the specimen mentioned above told me the bird laid a single pure white egg. The nest is placed amongst the roots of the large tussocks of grass on the edges of bluff and cliff ledges. (*Turner.*)

XIII. CEPPHUS PALLAS. 1769.

27. Black Guillemot.

Cepphus grylle (LINN.) BREHM. 1831.

This species is common along the Atlantic coast from the Bay of Fundy (*Chamberlain; Downs*) northward to Newfoundland (*Reeks*), and very numerous on both coasts of Greenland, and

said to remain longer than any other bird. Plentiful on Melville peninsula, but not so common in the Polar sea. (*Arct. Man.*) Everywhere common on Ellsemere island. It was found nesting in many places among old heaps of stones. (*E. Bay.*) Generally distributed, but nowhere breeding in numbers in the Gulf of St. Lawrence (*Brewster.*) Breeding in abundance on all suitable islands in northeastern Labrador. I was unable to discover any trace whatever of the Mandt guillemot, although Turner reports it abundant on the east coast. (*Bigelow.*) Common in Hudson strait ; also east and south shores of Labrador. (*Packard.*) A few seen on the west coast of James bay in 1903. (*Spreadborough.*) Breeds abundantly in scattered colonies on most of the Magdalen islands. (*Bishop.*) Breeds at Seal island, Yarmouth co., N.S. (*H. F. Tufts.*) Seen throughout the year on Prince of Wales sound, Hudson strait. (*Payne.*) Common at Quebec. (*Dionne.*) One shot in Burlington bay, Hamilton, Ontario, many years ago. (*McIlwraith.*) One record at Toronto, Ont., a female taken Dec. 19th, 1895. It is possible that this bird is *C. mandti*, as its beak is small and its plumage very white. (*J. H. Fleming.*)

Breeding Notes.—A large series of eggs of this bird was collected for me by Mr. Dicks on Pig island, coast of Labrador, June 20th, 1895. Another large series was collected for me in Ungava bay, Labrador, on July 9th, 1896. This bird lays two eggs in crevices of sea cliffs. I have also eggs in my collection collected on Grand Manan, New Brunswick. (*Raine.*) This is a common species in the Gulf of St. Lawrence, breeding in suitable localities as far west as the mouth of the Saguenay. Numbers of them breed on the Magdalen islands as well as near Tignish, at the west point of Prince Edward island. On the 23rd and 24th June, 1897, we found a number of their eggs in the cliffs of Bryon island. The eggs were mostly fresh, or only incubated a few days at that date. Each bird lays two eggs in a crevice of the rock, sometimes as much as two or three feet in. No nest is formed, the eggs being laid on the bare earth. They do not vary much, but where the soil is damp and its colour red they soon become stained and discoloured. This was the commonest species of sea-fowl I found breeding at the above islands, though on the Bird rocks several other species are more plentiful. (*Rev. C. J. Young.*)

28. Mandt Guillemot.

Cepphus mandti (LICHT.) BONAP. 1856.

This species abounds in the Arctic seas and straits from Melville island down to Hudson bay. (*Richardson.*) Occurs occasionally in Hudson strait; plentiful on the eastern coast of Labrador; also at Fort George, James bay. (*Packard.*) Severn house, Hudson bay. (*E.T. Seton.*) Quite common in Hudson bay, remaining the whole year, wintering out in the open water. Breeds in large numbers on the outer islands, under loose stones and boulders, laying one or more, commonly two, eggs. They nest in cavities under rocks and boulders, one, two, or very seldom three eggs being the full set. They nest late, none of the twelve eggs collected being taken before July 10th. The ground colour of the eggs is greenish white to chalky white, with large and small spots and blotches of black, umber and lilac, most numerous and largest at the larger end. (*A. P. Low.*) This species occurs on the arctic and Bering sea coasts of Alaska and about the islands in these waters. (*Nelson.*) Occurs rarely at St. Michael; not observed on the Aleutian islands. (*Turner.*) Rare during the season of open water at Point Barrow, but in November and December they were seen in small flocks. (*Murdoch.*)

29. Pigeon Guillemot. Western Guillemot.

Cepphus columba PALL. 1826.

This species is one of the most numerous among the larger water-fowl of Alaska. It occurs in great abundance wherever the coast is bordered by bold headlands or where there are precipitous islands. Breeds abundantly throughout the whole region. (*Nelson.*) Occurs sparingly at St. Michael, but is abundant on the Aleutian islands and breeds in great numbers on the newly upheaved island of Bogoslov. (*Turner.*) An abundant resident from Race rocks, Strait of Juan de Fuca, to Alaska; breeds throughout its range. (*Fannin.*) In large flocks in Burrard inlet, B. C., in April, 1889. (*Macoun.*) Common on the bay at Douglas, B. C., April, 1906. (*Spreadborough.*)

This is the most abundant water bird about Queen Charlotte islands, B. C. It breeds in crevices of the rocks along the shores

of quiet inlets. In many of these places the branches of the trees overhang the rocks and almost touch the water at high tide, so that when the birds are startled from their nests it is possible to observe the strange circumstance of a guillemot flying out of a tree. In frequent instances nesting sites are chosen in and about clefts of the rocks under the roots of large trees. (*Osgood.*)

XIV. **URIA** Brisson. 1760.

30. Common Guillemot. Murre.

Uria troile (Linn.) Lath. 1790.

Common in winter at Grand Manan, Bay of Fundy. (*Chamberlain*) and on the coast of Nova Scotia. (*Downs.*) Very common and breeding on the islands off the north coast of Newfoundland and Labrador. (*Reeks.*) Common on the eastern and southern coasts of Labrador, not observed in Hudson strait. (*Packard.*) A few breed in Greenland. (*Arct. Man.*) Found breeding in only two localities in the Gulf of St. Lawrence—at Bird rocks and Parroquet islands. (*Brewster.*) Found at the Mingan islands. (*Dionne.*) Common in Hudson bay. (*Richardson.*) Sometimes found after a storm on Burlington bay, Ont. (*McIlwraith.*) Richardson's reference should probably go under the Brünnich murre.

Breeding Notes.—Mr. Dicks collected for me a large series of eggs of this bird at Gannet islands, coast of Labrador, July 2nd, 1895. It lays one large egg on ledges of the sea-cliff. (*Raine.*)

30*a*. California Guillemot. Murre.

Uria troile californica (Bryant) Ridgw. 1884.

An abundant resident along the entire Aleutian chain and the mainland coast of the Pacific. Elliott, Palmer and J. M. Macoun found them to occur on the Pribilof islands in small numbers.

Birds and eggs have been taken at Sitka and Kadiak island. (*Nelson.*) Observed as far north as St. Matthew island. (*Turner.*) One specimen collected on King island, Point Barrow. (*McIlhenny.*) Abundant in Cook inlet, Alaska. (*Dr. Bean.*) The same distribution as the pigeon guillemot but not nearly so abundant; appears to be more common, however, at Victoria, B.C., in the

winter months. (*Fannin.*) Several were seen in the Hecate strait a few miles off the mouth of Cumshewa inlet, Queen Charlotte islands, July 12th, 1899. They were apparently directing their course for the Skedans islands at the mouth of the inlet, where they probably breed. (*Osgood.*)

31. Brünnich Murre. Thick-billed Guillemot.

Uria lomvia (Linn.) Bryant. 1861.

Abundant in the Bay of Fundy during winter. (*Chamberlain.*) Quite common along the coast of Newfoundland. (*Reeks.*) Doubtless the commonest bird on the Greenland coast, but said not to breed farther south than Lat. 64° N. (*Arct. Man.*) Plentiful on the eastern and southern shores of Labrador, where it resides and breeds. (*Packard.*) Common everywhere in the north where the coasts are sufficiently high to afford nesting places. Not common in the northwest part of Hudson bay, owing to the low shores. Seen in numbers at the mouth of Fox channel and in Hudson strait. Plentiful on the Greenland coast as far north as Smith sound. Common along Ellsemere and North Devon and southward along east coast of Baffin. Breeds in great numbers at Cape Wolstenholme, Digge island and other places in Hudson strait. Remains in the open water of Hudson bay throughout the winter, numbers having been killed at that time at Fullerton. (*A. P. Low.*) Most common in the neighborhood of Cobourg island where it certainly nests ; otherwise not often seen about Ellsemere island. (*E. Bay.*) Breeds abundantly on Great Bird rock, Magdalen islands. (*Bishop.*) This guillemot frequents the most remote arctic American seas that have been visited, Greenland and Hudson bay, and goes south in winter. (*Richardson.*) From Resolution island to Grinnell bay and Frobisher strait they are common, even as far as the mouth of Cumberland gulf, but apparently rare in its waters. There are large breeding places about capes Mercy and Walshingham ; the largest "rookery" being on the Padlic islands in Exeter sound. (*Kumlin.*)

A bird that has become plentiful the last few years in places between Kingston and Brockville. They usually appear in the month of December, and as they are very tame and come almost

up to a boat, they are readily slaughtered. Two men killed forty in a short time near Rockport, Ont., in December, 1896, just before the River St. Lawrence froze up. None of the common species have been observed in this locality. This bird was seen about Kingston, July 8th, 1897, and was captured. The nearest breeding ground is the Bird rocks, 1,200 miles away. (*Rev. C. J. Young.*)

The first record I know of this species for Toronto was a specimen shot in the bay on November 29th, 1893 ; it is now in my collection. From this date to the middle of December the birds were abundant, about forty being killed. For the next ten years the birds were noted annually in November and December, but in decreasing numbers, none surviving very long. The remarkable facts marking the migrations from 1893 to 1897 were the utter absence of food in the stomachs of all specimens examined, their weak condition, and the ease with which they were procured. Many were found dead on the lake shore—presumably from lack of food. The migration of this maritime species into the fresh waters of the Great Lakes was so remarkable and accompanied by so many unusual features that a fuller account has been published in the Proceedings of the International Ornithological Congress, London, 1905. (*J. H. Fleming.*)

In December, 1897, there were many large flocks of this species seen around Ottawa and numerous specimens were taken. No such migration had been recorded in previous years. (*Macoun.*)

Seventeen specimens taken at Point Barrow by McIlhenny are referred here by Witmer Stone. Murdoch's reference under *U. lomvia arra* should probably go here also.

Breeding Notes.—Breeds in countless numbers at Cape Wolstenholme, Hudson bay, also in lesser numbers on Digge island and at Cape Hopes Advance. Their nesting places are on the upturned edges of the ledges, where they straddle their solitary egg in myriads and when disturbed by the discharge of a gun rise so quickly that many of the eggs are dislodged, and fall into the sea. They remain on the bay all the year wintering in the open water. (*A. P. Low.*)

31*a*. Pallas Murre. Western Thick-billed Guillemot.

Uria lomvia arra (Pall.) Ridgw. 1884.

Wherever the coasts and islands of Alaska are bordered by rugged cliffs and rocky declivities, this bird is found in great

abundance. It occurs at Kadiak and along the adjacent coasts from Sitka to the peninsula of Alaska. Common around the Pribilof islands and the other islands in Bering sea, and in Norton sound ; it breeds in small numbers in Chamisso inlet and Kotzebue sound and on the cliffs near Cape Lisburne. (*Nelson.*) Extremely abundant at Bogoslov where they breed in millions, and throughout the Aleutian islands. (*Turner.*) Only reaches Point Barrow as a rare straggler. (*Murdoch.*)

Breeding Notes.—This bird lays its single egg upon the points and narrow shelves on the faces of the cliff fronts of the Pribilof islands, straddling over the eggs side by side, as thickly as they can crowd, making no nests. Its curious straddling by which the egg is warmed and hatched lasts nearly twenty-eight days and then the young comes out with a dark, thick coat of down, which is supplanted by the plumage and colour of the old bird, in less than six weeks. (*Elliott.*) *See* Palmer, "The Birds of the Pribilof Islands" for full account of this bird.

At Egg island, about ten miles from the entrance of St. Michael harbour many of these birds breed every year on the bluffs and ledges. The egg is laid on the bare rock without any pretence of a nest. Only one egg is laid in a season if undisturbed, but will be renewed if the season is not too far advanced. The egg is very large, having a bluish-green ground with dark-brown mottlings of variable outline. (*Turner.*)

XV. **ALCA** Linnæus. 1758.

32. Razor-billed Auk.

Alca torda Linn. 1758.

Occurs occasionally near Point Lepreaux and Partridge island ; also common near the Grand Manan, N. B. (*Chamberlain.*) Not very common in Nova Scotia in winter. (*Downs.*) Common throughout the summer and autumn along the Newfoundland shores. (*Reeks.*) Not observed in Hudson strait ; abundant and breeding on the eastern and southern shores of Labrador. (*Packard.*) Abundant on the northeastern coast of Labrador. (*Bigelow.*) Not rare in west Greenland, but unknown in eas Greenland. (*Arct. Man.*) Breeds, but not in large numbers, on

the Great Bird rock, Bryon island and Entry island, Magdalen islands, Gulf of St. Lawrence. (*Bishop.*) Common along the St. Lawrence at Kamouraska, Que. (*Dionne.*) Common from the middle Labrador coast to Frobisher strait ; they are not found in Cumberland gulf, but are by no means rare on the west coast of Greenland. (*Kumelin.*)

The first notice we have of the occurrence of this species in Ontario is in the published proceedings of the Canadian Institute. The specimen there recorded was taken on December 10th, 1889 ; a second specimen was taken near the west end of Lake Ontario in November, 1871, and Mr. J. H. Fleming mentions another as having been taken near Hamilton, Ont.

Breeding Notes.—This species breeds abundantly at Gannet islands, coast of Labrador. Mr. Dick collected a number of eggs for me on July 2nd, 1895. Like the common murre, this bird lays its egg on a ledge of the sea-cliff. This species, like the black or pigeon guillemot, sometimes lays two eggs, but one is the usual number. (*Raine.*)

XVI. **PLAUTUS** Brünnich. 1772.

33. **Great Auk.**

Plautus impennis (Linn.) Steenstr. 1855.

Formerly very abundant around Newfoundland, but now extinct. Last living specimen seen in 1852 ; a dead specimen picked up in Trinity bay, 1853. (*Reeks.*) First discovered in Greenland in 1574. (*Arct. Man.*)

XVII. **ALLE** Link. 1806.

34. **Dovekie. Little Auk.**

Alle alle (Linn.) Stejn. 1885.

Winter resident at Grand Manan, N.B. (*Chamberlain.*) Formerly common but now rare along Nova Scotia. (*Downs.*) A very common periodical migrant in October along the Newfoundland coast. (*Reeks.*) Common in Hudson strait ; occurs plentifully along the eastern coast of Labrador. (*Packard.*) Said to breed no further south in Greenland than Lat. 68° N. ; common in

Baffin bay but rare in the Polar sea. (*Arct. Man.*) Not common in Hudson bay or strait. Found there in the winter, but rarely seen in the summer. Very abundant along the north Greenland coast, less so along the western side of Baffin bay. Seen in Lancaster sound. (*A. P. Low.*) Ellsemere island. Commonest in Kane basin. (*E. Bay.*) Common on the coast of Labrador off Resolution island, Grinnell bay and Frobisher strait, but did not see any in Cumberland gulf; they are abundant off Exeter sound and to the northward on the west coast of Baffin bay. (*Kumelin.*) Godbout, River St. Lawrence, Quebec. (*Dionne.*) A dovekie was shot Nov. 18th, 1901, by H. Macdonald, a fisherman, two miles out in the lake from Toronto, Ont. I was present when he opened the stomach, which was empty except for a few small fish bones. It was a female and evidently a young bird. (*J. H. Ames.*)

Breeding Notes.—I have a number of the eggs of this bird from Iceland. Dr. Shufeldt has stated in his "Comparative Orders of North American Birds" that this bird lays two eggs, but my collector in Iceland has never found more than one egg to a clutch, and has been collecting for fifteen years. Most British ornithological writers state this bird lays only one egg. It deposits its single pale greenish-blue egg in crevices of the sea-cliffs. Breeds in Greenland on Smith sound. (*Raine.*)

Order. LONGIPENNES. Long-winged Swimmers.

Family IV. STERCORARIIDÆ. Skuas and Jaegers.

XVIII. MEGALESTRIS Bonaparte. 1856.

35. The Common Skua.

Megalestris skua (Brünn.) Ridgw. 1880.

Seen twice on the south coast of Greenland by Holbœll. (*Arct. Man.*) One seen sitting in the water in the straits of Belle Isle. June 22nd, 1882. (*Packard.*) Not very common in winter and spring around Nova Scotia. (*Downs.*) Seen off the coast of New Brunswick. (*Adams.*) Occasional in the Gulf of St. Lawrence. (*Dionne.*) Great Slave lake, very rare. (*Ross.*) Appears to be of frequent occurrence on "The George's," Newfoundland, and on

the Nova Scotian banks in winter; seen near Lady Franklin island, Hudson strait, in Sept.; they then had young ones on the rocks. (*Kumelin.*)

XIX. **STERCORARIUS** Brisson 1760.

36. Pomarine Jaeger.

Stercorarius pomarinus (Temm.) Vieill. 1819.

Said to be the commonest species of the genus in the north; breeds in northern Greenland and has been seen at the Parry islands and Regent inlet. (*Arct. Man.*) A rare autumn visitor along the whole Atlantic coast of Canada and Gulf of St. Lawrence. This bird is occasionally seen in company with the large gulls which spend a short time during the severity of the winter around the west end of Lake Ontario. (*McIlwraith.*) Great Slave lake, very rare. (*Ross.*) Not uncommon in the Arctic seas and northern outlets of Hudson bay where it subsists on putrid fish; it goes south in winter reaching Hudson bay in May. (*Richardson.*) Taken at Fort Churchill, Hudson bay, 1845. (*Dr. Gillespie, Jr.*) Rather common on Hudson bay in the summer of 1899 but no breeding place seen. (*A. P. Low.*) These birds were first observed at Bonne bay, Newfoundland, in August, and from this point northward to lat. 71° they were common at nearly all points, and from Belle Isle to Hudson strait they were abundant. (*Kumelin.*)

One specimen taken near Victoria, Vancouver island, October 22nd, 1898. (*Kermode.*) A rare visitor on the Pribilof islands. Mr. Elliott found one and Mr. C. H. Townsend another. During the summer of 1890 two were seen on St. George island eating the carcases of fur-seals. (*Palmer.*)

On the Pacific coast they reached the Yukon mouth, May 13th and became more common until the last of the month; abundant at St. Lawrence island and everywhere in Bering strait; very numerous along the Arctic coast on the borders of the ice pack. (*Nelson.*) Arrives at St. Michael by the first week in June; it is a resident of the drier portions of the lowlands, usually solitary, but several may be seen together at one time in the neighbourhood. (*Turner.*) A regular summer visitor at Point Barrow, but the least common of the three species. (*Murdoch.*)

37. Parasitic Jaeger.

Stercorarius parasiticus (Linn.) Schäff. 1789.

Breeds in both inspectorates of Greenland, but more commonly in the southern; also on the west coast of Davis strait and in the Polar sea. (*Arct. Man.*) Along the Atlantic coast, in spring and in autumn, as far south as Grand Manan. (*Herrick.*) Gulf of St. Lawrence. (*Dionne.*) A single specimen was seen July 20th, 18—, near Mingan harbour. (*Brewster.*) South to Fort Simpson, lat. 62° 30′; rare. (*Ross.*) Not uncommon on the Barren Grounds and at Franklin bay. Nests occasionally procured in these localities. (*Macfarlane.*) This species inhabits the Arctic sea coast of America. Numerous specimens were taken on Melville peninsula and North Georgian islands, as well as in Baffin bay. Specimens were also taken on the Barren Grounds and at Fort Franklin, lat. 65° 15′ N. (*Richardson.*) Several seen on the west coast of James bay, May, 1903. (*Spreadborough.*) Common about Roes Welcome, where it despoils arctic terns, and seen occasionally in the waters to the northward. (*A. P. Low.*) The stomach contents of this and the next species (taken in Hudson bay) were bones and feathers. (*A. Halkett.*) A specimen of the melanistic form taken at Fort Churchill, Hudson bay, 1845. (*Dr. Gillespie, Jr.*) Occasional spring and autumn visitor to the Great Lakes. (*J. H. Fleming.*) This bird occurs about the entire coast line of Bering sea, but is most numerous along the low marshy coast of Norton sound and thence south to the Kuskoquim river. Its breeding range covers the entire region from the Aleutian islands north to the extreme part of the mainland. (*Nelson.*) A frequent visitor to the Aleutian islands, and tolerably common at St. Michael. (*Turner.*) Not common at Point Barrow; none breed. (*Murdoch.*) This species has the same general distribution as the pomarine jaeger, but is not so common. (*Kumelin.*) One specimen taken at Victoria, B.C., by Mr. W. L. Gilchrist, Nov., 1897. Another was taken at Comox by Mr. A. C. Brooks, Sept. 12th, 1903. (*Kermode.*) Several seen at Homer, Cook inlet, Alaska, Aug. 22nd, 1899. (*Osgood.*) Casual (on the Pribilof islands). Elliott saw but four or five examples. He found half-digested berries of *Empetrum* in their stomachs. (*Palmer.*)

Breeding Notes.—I have a clutch of two eggs that were taken at Skonntzaz, Greenland, on June 11th, 1890. (*Raine.*)

Birds in the black plumage are rare in the spring, but are sometimes seen ; and at the Yukon mouth, on May 31st, I found a pair in this plumage mated. The eggs are laid upon the mossy knolls or uplands in their haunts about the 5th of June. The nest is merely a depression in the moss, containing two eggs indistinguishable from the next species. (*Nelson.*)

38. Long-tailed Jaeger. Buffon Skua.

Stericorarius longicaudus VIEILL. 1819.

Said not to breed farther south than lat. 70° N., in Greenland. (*Arct. Man.*) A very few of these birds visited the upper waters of Cumberland gulf in June, 1871, and soon disappeared ; I doubt if they breed there. (*Kumelin.*) Occasionally seen from Greenland south along the Labrador coast. (*Packard.*) Newfoundland. (*Reeks.*) Coast of Nova Scotia. (*Downs.*) In the Bay of Fundy. (*Boardman.*) Gulf of St. Lawrence. (*Dionne.*) Occasionally taken in Hudson bay. (*Dr. R. Bell.*) Less common than the former species in Roes Welcome and seen occasionally in the waters to the northward. (*A. I.; Low.*) South to Lapierre House on the Mackenzie river. (*Ross.*) Quite abundant along the Anderson river and on the Barren Grounds, and also on the Arctic coast. (*Macfarlane.*) Two specimens were shot at Rondeau, Lake Erie, October 2nd, 1900, by Mr. F. D. Bates, and another at the same place by Mr. E. Burk, October 10th, 1906. It has not been satisfactorily decided whether this last bird is the long-tailed or parasitic jaeger. (*W. Saunders.*) A rare bird at Aweme, Man. One was taken May 17th, 1903. (*Criddle.*) Once shot and several times seen during September, 1890 and 1891, at Sumas lake, B.C. (*Brooks.*) This is the most common of the jaegers on the Alaskan coast ; rare on the Pribilof islands. They are abundant on the low coast of Bering strait, but, except at Kotzebue sound, they are not common beyond that point. (*Nelson.*) Arrives earlier at St. Michael and in greater numbers than its congeners ; rarely seen on the eastern Aleutian islands, but a few pairs are said to breed near St. Michael. (*Turner.*) This is the most common species of jaeger at Point Barrow, and is rather abundant, but none breed. (*Murdoch.*)

BREEDING NOTES.—The pairing occurs with a great amount of noisy demonstration on the part of several rivals, but once

paired the birds keep by themselves and early in June deposit their eggs in a depression on the mossy top of some knoll upon a rising ground. (*Nelson.*)

Family V. LARIDÆ. Gulls and Terns.

XX. PAGOPHILA Kaup. 1829.

39. Ivory Gull.

Pagophila alba (Gunn.) Coues. 1897.

A very rare periodical migrant on the northwest coast of Newfoundland. Three shot in Parson pond, January 1867-68. (*Reeks.*) One specimen observed in Halifax harbour, prior to 1869. (*Jones.*) Rare along the Nova Scotia coast. (*Downs.*) An immature bird shot at St. John; a winter visitant at Grand Manan, N.B. (*Chamberlain.*) Coast of Labrador. (*Dionne.*) Seen on the edge of the ice in Hudson bay, near Great Whale river, in spring and winter. Occasional birds of this species are seen in the early summer among the heavy ice on the Atlantic coast of Labrador and Hudson strait. A young specimen in full plumage was shot at Fullerton in the end of September. (*A. P. Low.*) Occasionally seen on Lake Ontario. I succeeded after two season's work in obtaining a fine specimen of an adult male by getting the fishermen to attach a long line to the stern of their boat with a hook at the end baited with cisco. (*McIlwraith.*) There is reason to believe that this bird is probably a regular winter visitor to Lake Ontario. (*J. H. Fleming.*)

Circumpolar: eggs obtained on Cape Krabbe lat. 77° 25′ N. (*Arct. Man.*) Often seen on Ellsemere island and probably breeds. (*E. Bay.*) This beautiful gull frequents Davis strait, Baffin bay, and various parts of the northern shores of the American continent, breeding in great numbers on the high perforated cliffs which form the extremity of Cape Parry, in lat. 70°. (*Richardson.*) A rare visitor at Point Barrow; only two being seen in the spring but more common in the autumn. (*Murdoch.*) One specimen taken at Dease lake, Cassiar, B.C., by Mr. James Porter, in September, 1889. (*Fannin.*) One specimen was shot at Lake Okanagan in November, 1897, by Mr. J. F. Studley. Mr. A. C. Brooks also reports it from Okanagan. (*Kermode.*) Very common

in Kingwash fjord and vicinity just before it froze up, for a few days only ; none seen in spring ; does not breed in Cumberland gulf. (*Kumelin.*) One specimen was taken by the natives on the Pribilof islands in 1895. Perhaps a regular visitor in winter. (*Palmer.*)

XXI. **RISSA** Stephens. 1825.

40. Kittiwake Gull.

Rissa tridactyla (Linn.) Bonap. 1838.

Breeds in both inspectorates, but more commonly in the southern part of Greenland. (*Arct. Man.*) Not common on Ellsemere island. (*E. Bay.*) Common along the Atlantic coast, south from Greenland, especially in winter. A rather common resident in New Brunswick. (*Chamberlain.*) Breeding in considerable numbers at Bird rocks and on the limestone cliffs at Wreck bay, Anticosti. (*Brewster.*) Breeds plentifully on the northern portions of the Atlantic coast of Labrador ; Verrill reports them breeding in immense numbers on the eastern and northern shores of Anticosti. (*Packard.*) Common off Great Whale river, Hudson bay, on the edge of the ice in the winter of 1898-99 ; not very common in the northern part of Hudson bay or elsewhere in the north. (*A. P. Low.*) By far the most abundant of all the sea-fowl in northeastern Labrador. (*Bigelow.*) Quite common on the River St. Lawrence. (*Dionne.*) Reaching the western end of Lake Ontario in considerable numbers. (*McIlwraith.*)

This species abounds in the interior of the Northwest Territories and on the shores of the Arctic sea, where it breeds. (*Richardson.*) First observed in the Strait of Belle Isle on our outward passage in August, 1877 ; from this point northward they were constantly with us and extremely abundant until the ice covered the water ; they are altogether absent from Cumberland gulf in spring and summer. (*Kumelin.*)

40*a*. Pacific Kittiwake.

Rissa tridactyla pollicaris Ridgw. 1884.

Found along the coast of Vancouver island and in the Gulf of Georgia. (*Lord.*) The entire coast line of Alaska, with all its numerous islands, both near the mainland and far out at sea, are

inhabited by this beautiful gull ; it nests abundantly at the head of Norton bay. (*Nelson.*) A common bird at St. Michael when the ice breaks up after the middle of May. The great breeding ground of the species is further south ; on the Pribilof islands and some of the western Aleutian islands this species breeds in thousands ; breeds sparingly at St. Michael. (*Turner.*) Osgood, Grinnell, Palmer and Stone all report this bird as common in the parts of Alaska visited by them.

Breeding Notes.—This bird has the same habits as *R. brevirostris.* In building its nests it uses more grass and less mud-cement than that species does. The eggs are more pointed at the smaller end and lighter in ground colour, with numerous splotches of dark brown. (*Elliott.*)

41. Red-legged Kittiwake.

Rissa brevirostris (Bruch) Lawr. 1858.

Seen in considerable numbers at Unalaska, May 26th, 1877; abundant on the Pribilof islands, especially on St. George island, where they congregate in thousands and breed. (*Nelson.*) Not a common bird at St. Michael ; the Aleutian and Pribilof islands are its home. (*Turner.*)

Breeding Habits.—This bird reaches the Pribilof islands about May 9th for the purpose of breeding. It uses dry grass and moss cemented with mud which it gathers by the fresh-water pools and ponds scattered over the islands. The nest is solidly and neatly put up, both parents working. The nests are placed on inaccessible shelves and points of mural rocks and can scarcely be reached except a person be lowered by a rope. Two eggs are the usual number, though occasionally three will be found in the nest. The eggs are the size and shape of hens' eggs but covered with a dark gray ground spotted and blotched with sepia spots. (*Elliott.*)

XXI. LARUS Linnæus. 1758.

42. Glaucous Gull. Burgomaster.

Larus glaucus Brünn. 1764.

The most common large gull in Greenland, breeds with the other gulls. (*Arct. Man.*) The commonest gull on Ellsemere

island. It breeds on steep cliffs in companies up to 20 pairs. (*E. Bay.*) A few were seen on the river near Moose Factory and numbers on James bay in 1903. (*Spreadborough.*) Large numbers were found breeding on the ledges of high cliffs at Richmond gulf, Hudson bay, in July, 1898. The common big gull of the north ; a specimen opened by Mr. Halkett, had fish bones and surface amphipods in its stomach. (*A. P. Low.*) Not rare on Hudson strait ; breeds plentifully on the eastern and southern coasts of Labrador. (*Packard.*) We found burgomasters common north of Cape Harrison, Labrador, though they never gathered in flocks. (*Bigelow.*) Common along the Atlantic coast from Greenland to Newfoundland. (*Reeks.*) Southward it is rare and only in winter. (*Jones.*) One shot in St. John harbour, N.B. (*Chamberlain.*) Common in the river and gulf of St. Lawrence. (*Dionne ; Dr. Hall.*) On Dec. 2nd, 1905, the watchman at the Dominion rifle range, Ottawa, took a specimen in immature plumage. (*Eifrig.*) Regular winter resident at Toronto, Ont. Not common. (*J. H. Fleming.*) Mr. Will Elson shot a female of the second year, Feb. 1st, 1906, about six miles west of London, Ont. It was perched on the remains of a dead cow. (*W. Saunders.*) During the winter months this bird is not an infrequent visitor to Lake Ontario. It was shot at Toronto in 1884 and 1889. (*McIlwraith.*) Abundant on Great Slave lake. (*Ross.*) A great many of these gulls nest in Cumberland gulf and are common in other places. (*Kumelin.*)

Breeding Notes.—Altogether some twenty nests of this species were gathered, chiefly on sandy islets in the bays of Franklin and Liverpool ; a few of these were also found on islands in the lower Anderson. Fifteen of the nests contained two eggs each, but five had as many as three. The nest was usually a shallow depression in the beach. In one of them we discovered an egg of the black brant. (*Macfarlane.*)

In the summer of 1896 this species was found breeding by the large lakes in northern Ungava. (*Spreadborough.*)

42*a*. Point Barrow Glaucous Gull. Western Glaucous Gull.

Larus barrovianus Ridgw. 1886.

I shot an immature specimen of this gull in Comox bay, Vancouver island, December 13th, 1903. (*Brooks.*) All the islands of

Bering sea and all its dreary coast line are familiar to this great gull. In summer it occurs from the Aleutian islands north to the farthest points reached by the hardy navigators in the adjoining Arctic ocean. Common in the Yukon delta. (*Nelson.*) This gull is the earliest to arrive at St. Michael ; few breed here, but on the Aleutian islands it breeds in thousands ; at Karluck, on Kadiak island, it was in countless thousands in August, 1881. (*Turner.*) Abundant at Point Barrow. (*Murdoch.*) Abundant at Cape Lisburne, Arctic sea. (*Dr. Bean.*) They do not breed on the Pribilof islands, but in large numbers on Walrus island, about six miles from St. Paul island, to which island they go to feed on the dead carcases of seals, and from there they carry food to their young on Walrus island. It is reported that they destroy the young seal pups by picking out their eyes, but this is doubtful. (*J. M. Macoun.*)

Breeding Notes.—This bird breeds on Walrus island where there are no foxes. It builds neat nests of sea-ferns and dry grass placed among the turfy tussocks on the centre of the island. It lays early in June three large eggs of a spherically oval shape, which have a dark-greyish brown ground with irregular patches of darker brown-black. (*Elliott.*)

This gull nests in a tussock of grass that may grow in the middle of a pond in the lowlands, otherwise foxes might disturb it. The nest is built of grass and other material. The eggs are deposited early in June and are two or three in number. Should the eggs be removed the parent will renew the complement, but only one or two will be laid. The period of incubation is about three weeks. The young are downy and pure white on their first appearance, but soon change to gray with darker mottlings. (*Turner.*)

On June 4th, near St. Michael, the first nest was found. It was placed on a small islet, a few feet across, in the centre of a broad, shallow pond. The structure was formed of a mass of moss and grass, piled up a foot or more high, with a base three feet across, and with a deep central depression lined with dry grass. There was a single egg. The female as she sat on the nest was visible a mile away, and not the slightest opportunity was afforded for concealment on the broad surrounding flat. Other nests were of

the same character and contained from one to three eggs. (*Nelson.*) Mr. Macfarlane's note under *L. glaucus* probably refers to this species.

43. Iceland Gull. White-winged Gull.

Larus leucopterus FABER. 1882.

Breeds in both inspectorates of Greenland, but more commonly in the southern; also observed on the east coast, and said to breed on the Parry islands. (*Arct. Man.*) Common in the autumn and winter from Greenland to Newfoundland. (*Reeks.*) Rare on the coast of Nova Scotia. (*Downs.*) A pair shot in St. John harbour in 1881. (*Chamberlain.*) Godbout river, St. Lawrence river, Quebec. (*Dionne.*) A single specimen taken at Toronto December 12th, 1898 is in the collection of Mr. J. H. Ames. (*J.H. Fleming.*)

Several nests of this species, and the parent bird, were procured on the shores of Franklin bay, arctic coast, early in July, 1863 and 1864. (*Macfarlane.*) During Captain Ross's and Sir Edward Parry's first voyages many specimens of this gull were obtained in Davis strait, Baffin bay, and at Melville island. (*Richardson.*) This species is far less common in Cumberland gulf than the glaucous gull; on the Greenland coasts, however, it is the most common species except the kittiwake. (*Kumelin.*)

44. Glaucous-winged Gull.

Larus glaucescens NAUM. 1840.

An abundant resident in British Columbia; breeds on some of the islands in the Gulf of Georgia; frequents our harbours during the winter months. (*Fannin.*) An abundant winter resident in the lower Fraser valley and on Lake Okanagan, B.C. (*Brooks.*) Abundant in Burrard inlet, B. C., in April, 1889; very abundant in the Gulf of Georgia from Victoria to Comox in April, 1887. (*Macoun.*) Common in the bay at Douglas, B. C., April, 1906; most of them left before May. (*Spreadborough.*)

A breeding colony of about 100 of these gulls was found on an islet in Houston Stewart channel, Queen Charlotte islands, B.C. Fresh eggs, as well as young just hatched, were observed there

July 3rd, 1899. Very few large gulls were seen elsewhere about the islands, but they were said to breed on the west coast of Moresby island. (*Osgood.*)

During May, 1877, this bird was abundant about Unalaska, and also upon the Akutan and Sannak islands to the east. It breeds abundantly on the Near islands, and has been taken at Sitka and Kadiak, and extends south to California. The centre of abundance of this species during summer may be located along the Aleutian islands. (*Nelson.*) Occurs sparingly at St. Michael, but is more common on the Aleutian islands and Kadiak. (*Turner.*) Common at Port Clarence, Alaska. (*Dr. Bean.*) The common gull of Sitka, Alaska, and the only one found breeding there. Two adults were taken at Orca, Prince William sound. (*Grinnell.*) Reported by Stone to be quite common at Homer, Alaska, and a few specimens seen at Seldovia. (*Chapman.*)

Breeding Notes.—The usual nesting places of this gull are the faces of rugged cliffs, at whose base the waves are continually breaking, and where the coast exposes its wildest and most broken outline. On the other hand, Mr. Dall relates that about the 18th of July, at Coal harbour, on the Shumagins, on a peculiar, high, round island, abundance of eggs were found, but most of them pretty well incubated. In this case, the island being covered with tall rank grass, the nests were almost concealed, and, either from the dead grass naturally occurring in the depressions, or otherwise, all of them had more or less dry grass in and about them. The gulls built solely on the top of the highest part of the island, in the grass, and never on the lower portions near the shore, nor on the shelves of the rocky and precipitous sides. (*Nelson.*) The nests found near Sitka were slight hollows in the ground among the tall grass on the highest parts of the islands. These nest-hollows contained a slight lining of dry grasses. Two or three eggs constituted a set. (*Grinnell.*)

45. **Kumlien Gull.**

Larus kumlieni Brewst. 1883.

This species is quite common in the upper waters of Cumberland gulf, where it breeds; arrived with the open water and soon began nesting; the nest was placed on the shelving rocks

on high cliffs; two pairs nested very near our harbour, but the nests were torn down by the ravens. (*Kumelin.*) A few specimens taken in the Bay of Fundy, N. B. (*Chamberlain*). North Atlantic coast of North America. (*A. O. U. List.*)

46. Nelson Gull.

Larus nelsoni HENSH. 1884.

Type specimen captured at St. Michael, June 20th, 1877. (*Nelson.*) One male specimen was taken at Point Barrow. (*McIlhenny.*)

47. Great Black-backed Gull.

Larus marinus LINN. 1758.

Breeds generally throughout Danish Greenland, but most commonly between lat. 63° and 68° N. (*Arct. Man.*) Common in northeastern Labrador. Rather less so than the burgomaster. Breeding commonly. (*Bigelow.*) A large colony seen on the high cliffs of Cumming creek, North Devon, and in other inaccessible places on the northern islands. (*A. P. Low.*) A not uncommon migrant along the shores of Cape Breton island, N. S. (*Townsend.*) Common along the Atlantic coast, and Chamberlain says it resides in New Brunswick. Common in the Gulf of St. Lawrence and ascending the river to Lake Ontario where it is occasionally seen. One has been seen in the vicinity of Ottawa, Ont. Fleming says the earliest Toronto record is Sept. 18th, the latest, May 26th.

BREEDING NOTES.—This species breeds on Gannet island, coast of Labrador, where Mr. Dicks collected for me a number of clutches on June 15th, 1895. The nests were built on the rocks and made of sea-weed and usually contained three eggs each. Sometimes only two eggs are found in a nest. (*Raine.*) Reeks says that in Newfoundland it builds its nest of grass or rushes most commonly in fresh-water ponds or lakes; it is said to breed commonly in Labrador and Brewster saw young on Anticosti and believes it breeds there. Jones says it breeds on islands off the coast of Nova Scotia.

A colony numbering some 50 or 100 birds nest yearly at Methol lake, Kings co., N.S.; the lake is shallow and numerous granite

boulders rise above the surface. Upon these rocks the nests consisting of mosses and grass are built, usually one to each rock, but two or more if room for them. Two or three of the small islands in Gaspereau lakes are also used for breeding places. One island, upon which there were two nests, was not more than 15 yards long by 10 wide and at its highest point not more than 4 feet above the water. (*H. F. Tufts.*)

48. Slaty-backed Gull.

Larus schistisagus STEJN. 1884.

In September, 1880, Capt. C. L. Hooper, of the "Corwin," took the first example of this bird known from the west coast of America, at the Diomede islands, Bering strait. (*Nelson.*) Abundant, feeding at the mouth of the river falling into the head of Chernoffsky bay, Unalaska, October 1st, 1880. (*Dr. Bean.*) As Stejneger found it breeding on the Asiatic coast, it is doubtless commoner than its present limited known range indicates.

49. Western Gull.

Larus occidentalis AUD. 1839.

Found along the Vancouver island coast and in the Gulf of Georgia. (*Lord.*) A resident of British Columbia; very abundant on the coast during the winter months; found breeding in the Similkameen valley. (*Fannin.*) Common in Burrard inlet in April, 1889; large flocks were seen at Comox, May 2nd, 1887, and a few between Comox and Nanaimo Vancouver Island on May 6th. (*Macoun.*)

50. Siberian Gull.

Larus affinis REINH. 1853.

Northern Asia. Accidental in southern Greenland. (*Ridgway.*) Only North American as occurring in Alaska and accidentally in Greenland. (*Coues.*)

51. Herring Gull.

Larus argentatus BRÜNN. 1764.

Exceedingly rare bird in Greenland and not known to have occurred further north than Gotthaab. (*Arct. Man.*)

This species is the most widely diffused of all our gulls and is as much at home breeding in the far inland lakes as along the coast of the Atlantic, around Hudson bay, along the shores of the Arctic seas or on the upper Yukon. We have records of its breeding in Newfoundland, Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, throughout the whole prairie region and north to Hudson bay and the Arctic sea, and across the Rocky mountains to the upper Yukon, where Dall found it breeding in numbers. Fannin reports it breeding on the coast of British Columbia and also in the interior.

Breeding Notes.—Breeding in large numbers on an island in Crane lake, Sask., between June 9th-18th, 1894. Nest, a shallow hole in the ground lined with dry grass and weeds. Eggs, three as a rule; never more. A number of the young were hatched by June 9th, but the greater number about the 18th, when many young were running about the island, and some took to the water and swam away. The men on Crane Lake farm said that the old birds killed gophers (*Spermophilus Richardsoni*) and fed them to their young. (*Spreadborough.*) This species breeds in numbers at Buffalo lake, Alberta. (*Dippie.*)

I found this species breeding abundantly at Shoal lake, Manitoba, on June 18th, 1894. The nests were built on the ground on the islands, were composed of weeds, and contained three eggs each. (*Raine.*)

The herring gull is a common species along the St. Lawrence. A few years ago it used to breed on Pigeon island and the Lower Ducks, Lake Ontario, but owing to constant disturbance it no longer breeds in those places, and I doubt if any now nest around Lake Ontario. It is still plentiful in the neighbourhood of Parry Sound, Lake Huron, and on other lakes in northern Ontario. (*Rev. C. J. Young.*)

This gull breeds on the small islands off the coast of Bruce co., Ont., in the Georgian bay and off Manitoulin island. Nest in a dry situation. The fishermen take the eggs for food in considerable quantities. I have one egg taken by them which is of a light blue colour, and unspotted. No eggs that I saw were other than this species, though it seems probable that the ring-billed gull, which is very common in Georgian bay, may also breed in the same localities. (*W. Saunders.*)

In July, 1868, the writer found this species breeding on small islands in Gull lake, Victoria co., Ontario, and in 1870 on a small rocky island in Gull lake, Barry township, Addington co., Ontario. All the "Gull" lakes in Ontario were no doubt named after this gull.

The writer made a trip on June 22nd, 1894, to the island in Crane lake, where Mr. Spreadborough obtained the eggs on the 9th of the same month. After a drive of five miles we reached the margin of the lake, and, as the island was a quarter of a mile from shore, we divested ourselves of part of our clothing and waded out—taking care not to stand long enough to sink in the white mud at the bottom. We had scarcely reached the shore before we were surrounded by multitudes of common terns, ring-billed and herring gulls, cormorants and various waders.

The south end of the island was the lowest, and here the terns had their little nests placed on the ground amongst the short grass. By far the greater number contained three eggs, but none had four. Passing more to the north, and on a higher level, we found the ring-billed gull breeding, also in multitudes, and as we approached their nests they rose screaming, and did not cease till we left the island. Ascending a little higher, but passing to the north, we came among the herring gulls but many of their nests were empty, and the downy young were either hidden in the grass or running to the water as fast as possible, while many were swimming about. On the highest point of the island we found 29 nests of the double-crested cormorant. These nests, fully a foot high, were built on regular bases of broken sticks. These nests formed a group by themselves, and evidently formed the line of separation between the herring gull and the ring-billed. The sticks had all been carried for a long distance, as no willows grow within a couple of miles of the lake.

52. **Vega Gull.**

Larus vegæ (Palmén) Stejn. 1888.

Bering sea and adjacent waters, south in winter to California and Japan. (*A. O. U. List.*)

53. California Gull.

Larus californicus LAWR. 1854.

Great Slave lake, abundant. (*Ross.*) Quite a number of specimens with eggs were received from Eskimos of the lower Anderson, lat. 68° 30′. (*Macfarlane.*) Found along the Vancouver island coast and in the Gulf of Georgia. (*Lord.*) An abundant resident; breeds in the interior of British Columbia; a winter resident along the coast, during which time it appears in great numbers in our harbours. (*Fannin.*) Common in the lower Fraser valley and on Lake Okanagan, B.C., in winter. (*Brooks.*) Big Stick lake, Sask., and Many Island lake, Alta. (*Bishop.*) Many if not most, of the prairie references under *L. argentatus* should probably go here.

54. Ring-billed Gull.

Larus delawarensis ORD. 1815.

Apparently rare around the coasts of Nova Scotia and New Brunswick, and not very common on the river and Gulf of St. Lawrence.

Common throughout the summer at Newfoundland. (*Reeks.*) One young specimen taken at Port Manvers, Labrador. (*Bigelow.*) Very common on Lake Ontario at its western end during the winter. (*McIlwraith.*) Breeding abundantly on small islands off the Bruce peninsula, Ont., May, 1905, and June, 1900. (*W. Saunders.*) Common in the Georgian bay, breeds as far inland as Muskoka lakes, Ont. (*J. H. Fleming.*) Common at Lake Mistassini, Que., where it breeds. (*J. M. Macoun.*) Breeds in the vicinity of Hamilton inlet, east coast of Labrador. (*A. P. Low.*) Common on the inland waters from Lake Winnipeg to Hudson bay and northward to the Barren Grounds. (*Preble.*) Breeds in the small lakes in northern Ontario; found in the northern part of Addington co. in 1870, and near Minden, in Victoria co. in 1868. It bred on islands in the lakes just as it does now in the prairie region, where it is abundant on all large lakes and ponds from Manitoba to the Rocky mountains and northward. One specimen was taken on Loon lake, B.C., and it was common on Shuswap lake, in June, 1889. (*Macoun.*) A winter resident on the coast of British Columbia; breeds in the interior, especially to the north-

ward. I found it on Dease lake during the summer. (*Fannin.*) Common in the lower Fraser valley, and on Lake Okanagan, B.C. in winter. (*Brooks.*) One observed at Douglas, B. C., 1906. (*Spreadborough.*)

Breeding Notes.—Very abundant and breeding in great numbers on an island in Crane lake. Nests on the ground made of dry grass, smaller than those of the herring gull. Eggs, never more than three, while a few nests contained only two. A number of the young were hatched by June 9th, and the bulk of the nests had young by the 18th June, 1894. This species breeds later than the herring gull. A few were observed breeding at Deep lake, near Indian Head, Sask., June 3rd, 1892. (*Spreadborough.*) This species breeds at Buffalo lake, Alberta. (*Dippie.*) I have found this species breeding at Rush lake, Sask., and at Shoal lake, Manitoba. It makes its nest on the ground and lays three eggs. (*Raine.*)

55. **Short-billed Gull.**

Larus brachyrhynchus Rich. 1831.

A specimen shot in the vicinity of Quebec is now in the museum of Laval University. (*Dionne.*) More numerous and widely diffused than the other gulls. Many nests were procured at Fort Anderson, lat. 68° 30′. (*Macfarlane.*) Type specimen killed on Bear lake, May 26th, 1826. (*Richardson.*) A winter resident on the coast of British Columbia; during the early part of May, 1891, I saw quite a number on the lakes of the Cariboo district where it probably breeds. (*Fannin.*) Common in the lower Fraser valley, B.C. (*Brooks.*) This elegant species is abundant over a large part of the Alaskan mainland. Dall found it at Sitka and Kadiak, and from Fort Yukon to the sea along the Yukon river. It is found nesting from the peninsula of Alaska north to the head of Kotzebue sound and from the coast region it breeds interiorly over Alaska into British Columbia. (*Nelson.*) From Lake Marsh, Yukon, down the Yukon to below Little Salmon river and then at St. Michael. (*Bishop.*) Abundant on the Aleutian islands. (*Turner.*)

Breeding Notes.—At the Yukon mouth and St. Michael, May 14th is the earliest date they were noticed in spring. As a rule,

they are rare until the 20th or 25th May, about which time they find the ponds and sluggish streams open in the coast country. They undoubtedly reach interior localities earlier in the season, as spring is considerably earlier there.

The nest of this species is usually a small cavity in the sand by the side of a stream or sheet of water. It also frequently builds on a stump or tree, and in such cases dry twigs, hay and mosses are used in its construction. A good many sets of eggs were taken at Fort Anderson, lat. 68° 30′. (*Macfarlane.*)

They nest, like the glaucous gull, upon small islets in ponds and lakes. A bulky nest is prepared of grasses and mosses early in June, in which two or three eggs are laid. (*Nelson.*)

56. Mew Gull.

Larus canus Linn. 1758.

Accidental in Labrador. (*A. O. U. List.*)

57. Heermann Gull. White-headed Gull.

Larus heermanni Cass. 1852.

Found in the Gulf of Georgia and along the coasts of Vancouver island. (*Lord.*) Not common in the Gulf of Georgia, though they appear to remain during the summer. Four specimens, the young of the year, were taken off the mouth of Esquimault harbour in the latter part of July by Dr. Hazell of Victoria. (*Fannin.*) One taken in 1885 on Malcolm island, Gulf of Georgia, B.C. (*Dr. G. M. Dawson.*)

58. Laughing Gull.

Larus atricilla Linn. 1758.

On May 23rd, 1890, a gull was brought to my store. It had been shot on Toronto island, and, being unlike any of our native species, I had it thoroughly examined, and it proved to be a male laughing gull. This, I believe, is the first record of this bird in Ontario. (*William Cross.*) Coast of Nova Scotia. (*A. O. U. List.*) A second specimen was taken near Toronto in 1897 and is in Mr. J. H. Fleming's collection.

59. Franklin Rosy Gull.

Larus franklinii Sw. & Rich. 1831.

Accidental on Hamilton bay, Ont., two specimens shot, one in 1865, the other later. (*McIlwraith.*) Although no specimens of this species were taken, I am inclined to believe that they breed in the Anderson river district. (*Macfarlane.*) This is a very common gull in the interior of the Northwest Territories, where it frequents the shores of the larger lakes. It is generally seen in flocks and is very noisy. It breeds in marshy places. (*Richardson.*) After they arrive in Manitoba they follow the farmers in the fields and gather 'cut-worms' and other larvæ turned up by the plough. (*Percy Selwyn.*) Shot by Spreadborough at Indian Head, Sask., on May 20th with stomachs full of grasshoppers, showing they had come from far to the south. They are very abundant throughout the marshy parts of Manitoba during summer, breeding in nearly all large marshes. In Saskatchewan they are also abundant and breed in great numbers, where there are marshes, as far west as Cypress lake. Later in the season they gather in great numbers around the larger salt lakes, and mix with the ring-bill and herring gulls.

I found this gull everywhere abundant from Portage la Prairie to Edmonton, about the sloughs and lakes or following the plow of the settler. It is a very abundant species in Manitoba congregating in thousands in migration about the larger sloughs and small lakes, and while the bulk of them pass north in the spring many remain to breed and can be observed at all times feeding about the ploughed fields or following at the heels of the ploughman fighting with the cowbirds and blackbirds for the grubs and insect life uprooted. But abundant as I have seen them in Manitoba, the numbers are exceeded abnormally further west. While driving into the Eagle hills about 40 miles west of Saskatoon on July 30, 1906, we passed an extensive mud flat and salty slough on which rested between four and five solid acres of gulls. I fired a shot into the air to note the effect and they rose as one bird in such a cloud that their wings clashed together in a frantic flapping and their discordant cries were almost deafening. It would be entirely impossible to estimate the number of birds in this flock. (*Geo. Atkinson.*)

Breeding Notes.—This species, unlike the herring gull and the ring-bill, breeds in communities in marshes. Hundreds of nests were found June 13th, 1894, in a marshy lake about three miles southeast of Crane lake; incubation was far advanced. The nests were very bulky, made of reeds placed on the marsh, and floating in about two and a half feet of water. Eggs in each case, three. (*Spreadborough.*) Breeds abundantly in the marshes at the south end of Lake Manitoba. (*Raine.*)

60. Bonaparte Gull.

Larus philadelphia (Ord) Gray. 1863.

Frequent on the Atlantic coast as far north as Newfoundland. Apparently quite common in the Gulf of St. Lawrence and not rare in Hudson bay. A common spring and fall resident in Ontario.

This species is found from Manitoba to the Pacific and a few doubtless breed in the prairie region, but its range is generally north of that of *Larus franklinii.* No doubt the two are often confounded. Its breeding range is in the wooded country ex ending from the Hudson bay westward to the marshes of the Yukon where Dall found it breeding. It is rare on the coast of Alaska but common along the British Columbian coast and very common on all the lakes of the interior of that province.

Breeding Notes.—Thirty-seven nests were taken between June 10th and July 10th, in the wooded country in the vicinity of Fort Anderson and on the lower Anderson river. The nests were all built on trees, from four to twenty feet from the ground, and with one exception were made of small sticks and twigs lined with hay and mosses. (*Ma farlane.*)

On June 11th, 1891, I found a few pairs of this little gull breeding in company with herring gulls, avocets and common terns on an island in a small lake north of Rush lake, Sask. (See "Bird-nesting in Northwest Canada," page 57.) One specimen of the bird was procured to prove identity. This bird usually makes its nest in bushes and willows near the water, but in localities where there are no bushes it makes its nest on the ground like the other gulls. The eggs are similar to those of the Franklin gull, but are smaller in size. (*Raine.*)

I noticed one of these birds flying overhead among a number of common terns on the 11th June, 1893. I was visiting some rocks on the St. Lawrence below Rockport, Ont., at the time, and from the way in which it hovered along with the terns thought it possible it might be breeding there, though I failed to find any sign of a nest. This is the only time I have observed the bird so late in the season. (*Rev. C. J. Young.*)

60.1. **Little Gull.**

Larus minutus PALL. 1771.

A specimen obtained on Sir John Franklin's first expedition, was determined by Mr. Sabine to be a young bird of the first year of this species, exactly according with Mr. Temminck's description. (*Richardson.*)

XXIII. **RHODOSTETHIA** MACGILLIVRAY. 1842.

61. **Ross Gull. Cuneate-tailed Gull.**

Rhodostethia rosea (MACGIL.) BONAP. 1850.

This is both a rare and a far northern species. Four specimens have been received by the museum at Copenhagen, from Greenland, three of which were shot in Disco bay, and the fourth near the Sukkertop. (*Arct. Man.*) Two specimens of this gull were killed on the coast of Melville peninsula, on Sir Edward Parry's second voyage. Commander Forester also found this species in Waygate strait, which is probably one of its breeding places. (*Richardson.*) Found breeding at Ekomiut, in the district of Christianshaab, Greenland, August 15th, 1885. (*The Auk*, April, 1885.) A young bird of this species was taken near St. Michael, Norton sound, on October 15th, 1879. (*Nelson.*) Abundant at Point Barrow, autumn visitors only. They appeared in large, loose flocks, coming in from the sea from the southwest and evidently going northeast. None seen to return in the spring. They likely breed north of Wrangell island. (*Murdoch.*)

XXIV. **XEMA** LEACH. 1819.

62. **Sabine Gull. Fork-tailed Gull.**

Xema sabinii (SAB.) LEACH. 1819.

Said not to breed further south in Greenland than lat. 75° 30′ N.; also common at Sabine island, Melville bay, lat. 75° 30′ N.

(*Arct. Man.*) Common in Roes Welcome, about Whale point and on the Southampton side. Flies with the arctic terns and also builds its nests along with these birds on the small islands in the ponds of Southampton. (*A. P. Low.*) Occasional as far south along the Labrador coast as Cow Head, Newfoundland. (*Reeks.*)

Quite a large number of nests were found on the shores of Franklin bay, and a few eggs were also received from the Eskimos of Liverpool bay on the Arctic coast. (*Macfarlane.*) Breeding on low islands off the west coast of Greenland and westward to Melville peninsula. (*Richardson.*) Taken at Okanagan, B.C. by Brooks. (*Kermode.*) Found breeding abundantly in the low grounds between St. Michael and Bristol bay, Alaska. (*Turner.*) This gull is especially numerous along the Alaskan coast from the Kuskoquim mouth to Kotzebue sound, and occurs in small numbers at St. Lawrence island. (*Nelson.*) Osgood found a dead bird of this species on the shores of Chilcat inlet, Alaska, June 1st, 1899. (*Bishop.*) Possibly of regular occurrence on St. Paul island, Bering sea. Several were taken during the summer of 1896, and one was shot on St. George island in June, 1890. (*Palmer.*)

Breeding Notes.—On June 13th, 1880, about twenty miles from St. Michael while egging in company with some Eskimos we found a pond some 200 yards across, in the middle of which was two small islands. A gun-shot caused at least one hundred of these gulls to rise like a white cloud over the islet and showed us that we had found a breeding place. On going to the largest island my Eskimo called out that the ground was covered with gull's eggs. The Eskimo found the water waist deep and under it a solid bed of ice of unknown depth. He carried me over on his back, as I desired to see the nests of these birds, never having seen them. The island was very low, and the driest spots were but a little above the water. Built on the driest places were twenty-seven nests, containing from one to three eggs each, and as many others ready for occupancy. Four or five nests were frequently placed within two or three feet of each other. In about one half the cases the eggs were laid upon the few grass blades the spot afforded, with no alterations save a slight depression made by the bird's body. In the majority of the other nests a few grass blades and stems had been arranged circularly about

the eggs, and in the remainder only enough material had been added to afford the merest apology for a nest. (*Nelson.*)

XXI. GELOCHELIDON Brehm. 1830.

63. Gull-billed Tern. Marsh Tern.

Gelochelidon nilotica (Hasselq.) Stejn. 1884.

Accidental on southern coast of New Brunswick. One shot at Grand Manan, New Brunswick, August, 1897. (*Boardman.*)

XXVI. STERNA Linnæus. 1758.

64. Caspian Tern.

Sterna caspia Pall. 1770.

A tolerably common summer migrant and breeds on many of the islands off the coast of Newfoundland. (*Reeks.*) Very rare in Nova Scotia. One specimen shot at Cole harbour. (*Downs.*) One specimen procured at Moose Factory, Hudson bay. (*Packard.*) Not uncommon in the spring and autumn around Hamilton bay, Ont. (*McIlwraith.*) Regular spring migrant at Toronto, Ont. Sometimes occurs in flocks of up to 50. I have no fall records. (*J. H. Fleming.*) Rare on Great Slave lake. (*Ross.*) Nutting records a specimen taken near Grand Rapids, Saskatchewan river in the summer of 1891. (*Preble.*) This species occurs as an occasional visitant to the coast of Bering sea, from the Yukon mouth to St. Michael at least, and is undoubtedly found still more frequently south to the known haunts of the species along the Pacific coast of Asia. (*Nelson.*)

Breeding Notes.—This bird is occasionally shot in Toronto marsh. It breeds abundantly on small islands in Lake Michigan. On June 10th, 1894, Mr. Van Winkle collected a number of clutches for me on Gravel Gull islands, Lake Michigan. Nests, in hollows in the sand, containing mostly three eggs each. Mr. McIlwraith in "Birds of Ontario," says this species nests singly, but he is mistaken, as it breeds in large colonies like other terns. (*Raine.*)

65. Royal Tern.

Sterna maxima Bodd. 1783.

Northward to Massachusetts and the Great Lakes. (*A.O.U. List.*)

67. Cabot Tern.

Sterna sandvicensis acuflavida (CABOT) RIDGW. 1884.

Accidental along the Great Lakes.

In the spring of 1882 Dr. Garnier noticed three individuals of this species coursing around a mill-pond not far from his residence at Lucknow, Ont. He shot one and the writer saw it after it was mounted. (*McIlwraith.*)

69. Forster Tern.

Sterna forsteri NUTT. 1834.

Only a casual visitor on Lake Ontario in spring and fall. (*McIlwraith.*) Possibly a regular migrant at Toronto, Ont. I have examined only two specimens. (*J. H. Fleming.*) Summer resident about the large lakes of Manitoba; nesting among the reeds. (*E. T. Seton.*) Rare on Many island lake, Sask. (*Bishop.*) This species may be said to be regularly found wherever the common tern is numerous in Manitoba but west of that province the only locality at which I authenticated its presence by collecting in 1906 was at Manito lake, Sask. (*Geo. Atkinson.*) In the summer of 1881 the writer found them abundant on lakes Manitoba, Waterhen and Winnipegosis where they were breeding in numbers in the bordering marshes. West of Manitoba their place is chiefly taken by the common tern, as only one pair was seen by Spreadborough at Indian Head in a residence of three months in 1892. Richardson says they extend northerly to lat. 57°.

BREEDING NOTES.—On June 18th, 1894, I found an immense colony of these birds breeding on an island in Shoal lake, Manitoba. The nest was made in a hollow in the sand, and contained three eggs, resting on a few straws. (*Dippie.*) It is not common at St. Clair flats, Ont., but nests have been taken there by Mr. J. A. Morden, but only a few nests of this species to many of the next. (*W. Saunders.*)

70. Common Tern.

Sterna hirundo LINN. 1758.

This is truly the "common tern," as it breeds abundantly from the coasts of Labrador southward to the Grand Manan, N.B., on

all islands and coasts of Labrador, Hudson bay, Newfoundland, Nova Scotia and New Brunswick. It is also common in the Gulf of St. Lawrence, breeding on the Magdalens, Anticosti and Prince Edward island. Ascending the St. Lawrence, it nests on the Thousand islands, where its nest was found by Rev. C. J. Young, in June, 1895. Stragglers are found throughout Ontario, and it is known to breed in several places.

A summer resident in Manitoba and breeding. It is common on all the large lakes of Saskatchewan and breeds in suitable places. A few breed near Indian Head, but the greatest numbers were found at Crane lake, about 100 miles east of Medicine Hat; it was also seen in 1895 at Cypress lake and southwestward to Waterton lake near Chief mountain, and north to Lac Ste. Anne, Alberta.

One specimen taken at Cowichan gap, September 15th, 1896, by R. D. McClure, Sidney, Vancouver island. (*Fannin.*)

Breeding Notes.—I visited a colony near Souris, Prince Edward Island, July 7th, 1892, consisting of perhaps about 75 pairs. Several nests found contained three eggs each and were the usual depressions in the plains of drifted sand, protected possibly by a few wisps of grass wound round the edge of the hollow. (*Dwight.*) Breeding extensively on the shores of the Arctic sea as well as on islets in many of the inland lakes of the forest region and "barrens." (*Macfarlane.*) Breeding in large numbers on a small island in Crane lake, Saskatchewan, June 9th-20th, 1894. Nest, a shallow hole in the ground lined with dry grass. Of the hundreds of nests that I saw each contained three eggs, except two, and they had four. A number of the young were hatched by June 20th. A few were found breeding by Deep lake, Indian Head, Sask., June 3rd, 1892. Common from Moose Factory to Richmond gulf, Hudson bay; breeding in June, 1896. (*Spreadborough.*)

On June 18th, 1894, on an island in Shoal lake, Manitoba, I found thousands of this tern breeding; their nests were hollows in the sand, lined with bits of drift-weed and contained three eggs each. I found it breeding under like conditions on many of the lakes of Saskatchewan in June, 1891 and 1893. (*Raine.*)

This species was formely very plentiful in the River St. Lawence from Kingston eastward. Numbers bred on Salmon island,

a bank of shingle, etc., near the foot of Amherst island, Bay of Quinté; I found one egg in June, 1895, a solitary pair of birds being all that were left of the many that formerly bred there; I have not heard of any being met with since that date. Another locality a little below Kingston was the "Spectacles," three small islands in mid-channel. Many pairs also bred at the foot of Wolfe island, but all these localities have been deserted for some years. Further down the river, below Rockport, a few pairs still breed. They frequent some rocky islets near Chimney island. In 1893 there were about 30 pairs of birds, but since that date they have gradually diminished until in 1896 there were not more than 12 pairs, and in a few more years this locality also will be deserted by these birds. Two or three eggs complete a set. I have seen numbers of tern's nests and never saw more than three eggs in the same nest. When the eggs are laid on rocks, a few stalks of grass or bits of bark are collected and formed into a nest. Sometimes there is no attempt at nest building at all, but the eggs are laid on the bare rock or ground, usually between the first and third weeks of June. On the Magdalen islands great numbers of these birds breed on the sand bars; in June, 1897 I found them abundant on Grosse isle, where on the 22nd June I saw about 60 eggs, most of them recently laid. The nests were made in the short grass and on the beaches near the sea. (*Rev. C. J. Young.*)

Besides breeding in numbers in the St.Clair marshes, this species breeds on islands in Lake Huron, and in 1900 perhaps 100 nests were found on an island off the Bruce peninsula. The fishermen called it the "Lake Erie gull" and said it had come there only during the past few years. The nest is on gravelly or rocky ground and built of slight material. Eggs, from two to four. (*W. Saunders.*)

During July and August of 1899 the writer spent five weeks on Sable island, which is situated nearly one hundred miles southeast of Nova Scotia. The breeding season was nearly over, but common, arctic and roseate terns were still incubating, though thousands of young birds were flying around, and still younger ones were hidden in depressions in the sand or behind any convenient cover, while the clamour of the parents overhead was deafening. The chief breeding ground was on the south side of the island, and this was a wide sand flat extending for ten miles or more in

an east and west direction. Over this flat were scattered patches of *Arenaria peploides* and a few hummocks of sand grass (*Ammophila arenaria*), and occasionally remains of old wrecks. In these localities the nests were placed very thickly, and young birds were in multitudes. Most of the nests were just depressions in the sand, but others were lined with anything that came handy, as broken shells, grass, sea-weed, egg cases of squid and other materials.

All the species bred together; but the common tern was by far the most abundant, while the arctic came next, and the roseate in much smaller numbers. Owing to the presence of foxes on the island, the birds are much disturbed on their breeding-grounds, and this year many nests were placed on the sand-hills near the stations, where foxes dare not come. On the sand-hills where grass was plentiful the nests were still mere depressions in the sand, and hardly any had even a slight lining of grass. (*Macoun*).

71. Arctic Tern.

Sterna paradisæa Brünn. 1764.

This tern, although an arctic bird, seems to be little known in Greenland, but breeds in Ungava bay and southward to Nova Scotia. Brewster reports it breeding abundantly on the Magdalens and in June, 1897, Rev. C. J. Young found it there, and it has been found breeding in other parts of the Gulf of St. Lawrence. Chamberlain says it is rare in New Brunswick and only as a straggler. McIlwraith says it is of rare occurrence in Ontario, and all our researches in the western territories never revealed this bird east of the Columbia river. Numbers were seen on Upper Arrow lake, Columbia river, B.C., June 5th, 1890, but they went north a few days later.

This was the most common tern seen from the northern parts of Hudson bay to the far north. They nest along shores placing their eggs, without nesting material, on the sand or gravel. (*A. P. Low.*) Common on Hudson bay. (*Preble.*) Breeds as extensively as the common tern and extends as far north. (*Macfarlane.*) This species breeds very abundantly on the shores of Melville peninsula and on the islands and beaches of the Arctic sea. (*Richardson.*) On the sandy islands east of Point Barrow. (*Murdoch.*) They breed in great numbers throughout all northern

Alaska, both on the coast and in the interior, and on the islands in Bering sea and on the Aleutian islands. (*Nelson.*) Fannin has seen it off the Pacific coast of British Columbia, and reports it from Dease lake in Cassiar and south to Okanagan. Two specimens seen by Rhoads on Upper Arrow lake, B.C., were thought to be this species.

Breeding Notes.—On July 15th, 1895, Mr. Dicks collected some clutches of this tern for me on Green island, Sandwich bay, Labrador. Nests in a hollow in the rocks, containing two or three eggs each. This bird also breeds on the islands of Mackenzie bay, Arctic ocean, where eggs were collected for me on June 20th, 1894. Nests, holes in the sand. (*Raine.*) Nesting everywhere on the sand on Sable island with a preference to sand bars and lake shores. (*W. Saunders.*)

The arctic tern is one of the earliest birds to arrive at St. Michael, Alaska. They become very abundant by the middle of May. They breed on the low grounds, preferably on a low, damp island, such as those at the northern end of the "canal." On this place hundreds of nests were discovered in 1876. The nest is merely a bare spot on the ground; sometimes only a few blades of grass surround the margin of the nest, but these seem to be more the result of cleaning off a bare spot than an attempt to construct a nest. The eggs vary from one to two, never more. (*Turner.*)

On June 12th I found a nest upon a small wet islet near St. Michael. The island was covered with short grass. The nest was lined with a few dry grass-stems and contained two eggs, and the female bore another ready to deposit. Another nest similarly situated was lined with material procured within a few feet, and the ground was turned up in small spots all about where, the birds had uprooted the grass, many small bunches being half uprooted and left, the task proving too heavy. (*Nelson.*)

72. Roseate Tern.

Sterna dougalli Montag. 1813.

Rare on the coast of Nova Scotia. (*Downs.*) Recorded on the authority of Col. Thomas Egan, who assures me a specimen was lately obtained and is now in the possession of Mr. John Rowe of

Halifax, N.S. (*Jones.*) Not uncommon, and breeding on Sable island, N.S., August, 1899. (*Macoun.*)

73. Aleutian Tern.

Sterna aleutica BAIRD. 1869.

The Aleutian tern arrives at St. Michael, Norton sound, by June 1st and remains until the latter part of August. It is very abundant in the vicinity, breeding plentifully on a small island just at the north end of the "canal." (*Turner.*) These birds extend their range to the head of Norton bay and reach the Siberian coast at Bering strait. They undoubtedly winter in the vicinity of Kadiak island and the coast of the northern Pacific adjacent thereto. (*Nelson.*)

BREEDING NOTES.—The arctic tern is so intimately associated with the Aleutian tern, both in nesting habits and procuring food, that the remarks for one will apply to the other. Their nests are sometimes placed within two feet of each other, and apparently without causing animosity between the species. (*Turner.*) This species is strictly limited to the sea-coast, and breeds upon small dry islands along the coast. The birds reach St. Michael from May 20th to 30th and are found scattered along the coast in company with the arctic tern for a short time, but early in June they gather about the islands where they nest. One of these islands is about a mile from St. Michael, in the mouth of a tide-channel known as the "canal." This island is about half a mile across, rises about thirty feet from the beach in a sharp incline, and has a rather level top covered with a thick mat of grass, moss and other vegetation. The upland is dry, and here the birds breed, laying their eggs directly upon the moss, with no attempt at lining, which would be entirely unnecessary there. About twenty pairs were found on this island and about forty pairs on another island about 18 miles to the eastward. (*Nelson.*)

74. Least Tern.

Sterna antillarum (LESS.) COUES. 1862.

Accidental on our Atlantic coast and the Great Lakes.

Apparently very rare around Newfoundland. (*Reeks.*) Very are in Nova Scotia. One shot at Polly bog. (*Downs.*) Audubon

reported it abundant and breeding on the coast of Labrador. (*Packard.*) Occasionally taken on Lake Erie and the south-western corner of Lake Ontario. (*McIlwraith.*)

XXVII. HYDROCHELIDON Boie. 1822.

77. Black Tern.

Hydrochelidon nigra surinamensis (Gmel.) Stejn. 1882.

Accidental in New Brunswick; three shot at Grand Manan, August, 1879. (*Boardman.*) A few taken at Quebec. (*Dionne.*) It is a common spring and autumn migrant in Ontario, but more common west of Toronto. Saunders and Morden report it breeding abundantly on St. Clair flats and marshes. Its chief breeding-grounds, however, are the marshy districts of Manitoba and eastern Saskatchewan, where every marsh has many or few nests, and westerly along the boundary to Waterton lake and Lake Okanagan, B.C. It extends northwesterly in diminishing numbers, and breeds in marshes. They were seen by Spreadborough on Lesser Slave lake, Alta., and one nest was taken and reported by Dall at Fort Yukon, Alaska. We have never noticed it in the Rocky mountains, but Fannin observed it on Burrard inlet, Gulf of Georgia, in January, 1882, and also in the interior of mainland.

Breeding Notes.—Abundant at Raeburn, Manitoba and at Buffalo lake, Alberta. Specimens and eggs taken at both localities. (*Dippie.*) Nests very small, floating upon the water among the grass in sloughs and marshes. Begins to breed about the middle of June in Saskatchewan; usual number of eggs, three. On June 15th, 1894, saw a number of their nests in a marshy lake near Crane lake, Sask. The nest was a few pieces of rushes with a little grass mixed in to keep it from floating apart and letting the eggs fall through. Some of the nests were so small and so much sunken that the eggs were about one quarter in the water. Found breeding in 1904 in a marsh about nine miles south of Albany, James bay. (*Spreadborough.*)

I found it breeding at Long lake and Shoal lake in Manitoba. It also breeds plentifully at Swan lake in northern Alberta. It is a late breeder, seldom having eggs before the middle of June. The nests are usually built on dead, floating rushes in shallow water and contain three eggs each. (*Raine.*)

This tern is a summer resident in the St. Lawrence valley. In the county of Leeds, Ont., I first noticed it near Gananoque lake in 1893, about six miles north of the St. Lawrence, where on the 7th July, I found a nest among the flags, containing three eggs on the point of hatching. Each year since, I have found two or three nests in the same locality. The birds choose very wet, miry places to lay in. Two nests were found on old musk-rat houses, another on a log of wood in a pool far out in the marsh, others in equally swampy places. Three completes the set of eggs, which are usually laid between the 7th and 14th June. In the spring of 1894 these birds were very plentiful; since that time not so much so. I noticed a number of them in the Bay of Quinte in July, 1896, and Dr. C. K. Clarke, of Kingston, tells me that a number of pairs nested at Cataraqui marsh in 1897. (*Rev. C. J. Young.*)

This species breeds in all the large marshes that I have visited in western Ontario, and nests on the dilapidated musk-rat houses and other débris, laying from two to four eggs. (*W. Saunders.*)

78. White-winged Black Tern.

Hydrochelidon leucoptera (Meisn. & Schinz.) Boie. 1822.

Six specimens of this species, or rather what I believed to be this species, were seen for hours one morning about the last of August, 1881, flying over a lake on the western flank of Porcupine mountains in northwestern Manitoba. One of the birds was shot, but owing to our difficulties at the time (we were hauling our boats over a height of land) it spoiled before it was skinned.

On June 9th, 1896, I again had the good fortune to see a pair of these birds, which were evidently mated, but after watching them for an hour I could find no nest. They were circling around a small marshy pool across the road opposite to the entrance to the Experimental Farm at Brandon, Manitoba. I had no gun, and when I returned six weeks afterwards I saw no signs of terns around the pool.

I take the following from my note-book, written at the time: "To-day was again surprised by seeing a pair of black terns with the bends of both wings evidently quite white. I watched them for a long time and found them to be identical with those I saw by the pool at Stony mountain on the 4th inst. When the bird

rested and its wings closed it seemed to have a white collar around the *black head.* There was a marked contrast between the plumbeous back, the white collar and the black head." On June 4th I saw a number of specimens circling over a pool by the roadside not far from the hotel at Stony mountain, 14 miles from Winnipeg, Manitoba. The white was on the *bend* of *both* wings in all the birds seen. Further observations made at Ribstone creek, Sask., in August 1906, lead me to think that the forms mentioned above may have been albinos. (*Macoun.*)

Family VI. **RYNCHOPIDÆ.** Skimmers.

XXVIII. **RYNCHOPS** Linnæus. 1758.

80. **Black Skimmer.**

Rynchops nigra Linn. 1758.

Accidental on the south Atlantic coast. A large flock seen in the Bay of Fundy. 1879. (*Boardman.*)

Order TUBINARES. Tube-nosed Swimmers.

Family VII. **DIOMEDEIDÆ.** Albatrosses.

XXIX. **DIOMEDEA** Linnæus. 1758.

81. **Black-footed Albatross.**

Diomedea nigripes Audubon. 1839.

Common in the North Pacific Ocean, north to the Aleutian islands. Eleven specimens were taken near Point Barrow, Alaska, by McIlhenny.

82. **Short-tailed Albatross.**

Diomedea albatrus Pall. 1769.

Tolerably common on both coasts of Vancouver island, but more abundant on the west coast; have been taken in Victoria harbour. (*Fannin.*) From lat. 50° N. in the North Pacific, this fine bird becomes more or less numerous and thence north replaces the preceding species; it is found throughout the Aleutian

islands and is numerous in Bering sea and extends north to Bering strait. (*Nelson.*) From lat. 52° N., this species increases in numbers as we go north, but the mouth of Cook inlet and the Barren islands seem to be its favorite resort. (*Dr. Bean.*)

Mr. W. Spreadborough found one dead on the beach at Esquimault, Vancouver island, June 4th, 1893.

Breeding Notes.—Turner believed that this species bred in the neighbourhood of Cape Newenham, near Bristol bay, Alaska, as he saw numbers of them there in June, flying and sitting on rocks.

XXX. **THALASSOGERON** Ridgway. 1884.

83. Yellow-nosed Albatross.

Thalassogeron culminatus (Gould) Ridgw. 1884.

Accidental on the Gulf of St. Lawrence. One example taken at the Moisie river, Quebec, August 20th, 1885. This bird is now in the museum of Laval University in Quebec city. (*Dionne.*)

Family VIII. **PROCELLARIIDÆ.** Fulmars & Shearwaters.

XXXI. **FULMARUS** Stephens. 1826.

86. Fulmar.

Fulmarus glacialis (Linn.) Steph. 1826.

Said to breed no further to the south in Greenland than lat. 69° N., occurs also in East Greenland. (*Arct. Man.*) Very common along the Atlantic coast of Labrador, especially about Cape Chidley. Common northward to Smith sound; very numerous off Hall island, on the north side of Frobisher bay. (*A. P. Low.*) Apparently common in its migration along the coast of Newfoundland. (*Reeks.*) Rare on the coast of Nova Scotia. (*Downs.*) On the fishing grounds off Grand Manan, N.B., in autumn. (*Herrick.*) One shot at Beauport, Quebec in 1890. (*Dionne.*)

86*b*. Pacific Fulmar.

Fulmarus glacialis glupischa Stejn. 1884.

A very common species in the North Pacific.

One specimen taken at Chemainus, Vancouver island, November, 1895. (*Fannin.*) This is the common fulmar of the North Pacific, and numbers of specimens have been obtained at Unalaska. (*Nelson.*) Hundreds of thousands of these birds were seen off Unimak pass and the eastern end of Unalaska island, in fact, they covered acres of water; they are also numerous around many of the Aleutian islands. (*Turner.*)

Breeding Notes.—This species breeds on the Commander islands, on the west side of Bering sea. It nests in the greatest abundance on the high cliffs and promontories rising from the sea. The eggs are dull white. (*Nelson.*)

86*c*. **Rodgers Fulmar.**

Fulmarus glacialis rodgersii (Cass.) Coues. 1872.

All of the Bering sea islands situated off shore and north of the Aleutian islands are frequented by this form during the breeding season; it was common to the north of the Aleutian islands and about the Pribilof islands in the summer of 1877; in the summer of 1881 it was very numerous in Bering strait, and it was also found at St. Lawrence island. (*Nelson.*)

Breeding Notes.—This species repairs to the cliffs, especially on the south and east shores of St. George island in Bering sea. It comes early in the season and selects some rocky shelf, secure from all enemies, save man, where, making no nests whatever, but squatting on the bare rock itself, it lays a single large, white oblong-oval egg and immediately commences the duty and labour of incubation. It is of all the water-fowl the most devoted to its charge, for it will not be scared from the egg by any demonstrations that may be made in the way of throwing rocks or yelling, and it will even die as it sits rather than take to flight, as I have requently witnessed. The fulmar lays from the 1st to the 5th of June. The egg is very palatable, fully equal to that of our domestic duck, indeed it is somewhat like it. (*Elliott.*)

XXXI. **PUFFINUS** Brisson. 1760.

89. **Greater Shearwater.**

Puffinus gravis (O'Rielly) Salvin. 1896.

Common in large flocks off the shore of northeastern Labrador. (*Bigelow.*) Marked by Holbœll and Reinhardt as breeding in the

southern part of Greenland. (*Arct. Man.*) Abundant from Belle Isle to Resolution island. (*Kumelin.*) Rather common on the west coast of Newfoundland. (*Reeks.*) Met with off the shores of Nova Scotia; not seen in the gulf. (*Brewster.*) A winter visitor off New Brunswick. (*Dr. Adams.*)

90. Manx Shearwater.

Puffinus puffinus (Brünn.) Licht. 1854.

One skin received from Greenland. (*Arct. Man.*) Common from Belle Isle to Grinnell bay. (*Kumelin.*) Tolerably common on the west coast of Newfoundland. (*Reeks.*) Off the coast of New Brunswick. (*Dr. Adams.*) Bird of passage in Greenland. (*Winge.*)

92.1. Allied Shearwater.

Puffinus assimilis Gould. 1837.

Accidental on Sable island off the coast of Nova Scota. (*A.O. U. List. Ninth Supplement.*)

93. Black-vented Shearwater.

Puffinus opisthomelas Coues. 1864.

Several specimens have been taken off the Outer wharf, Victoria, Vancouver island. (*Fannin.*)

94. Sooty Shearwater.

Puffinus fuliginosus Strickland. 1832.

Common on the banks of Newfoundland, but rather rare in the Strait of Belle Isle. (*Reeks.*) Rare on the coast of Nova Scotia. (*Downs.*) Occurs in winter on Grand Manan, N.B. (*Herrick.*) Coues states he saw a few individuals of this species on the coast of Labrador, August 19th, 1860. (*Packard.*) Common among the greater shearwaters off the shore of northeastern Labrador. (*Bigelow.*)

95. Dark-bodied Shearwater.

Puffinus griseus (Gmel.) Finsch. 1874.

During the fall of 1895, Dr. C. F. Newcombe found this species in great numbers off the west coast of Queen Charlotte islands.

(*Fannin.*) A female was brought in by an Indian on July 15th and another July 21st, 1896. He reported seeing others. They were in the open bay at Sitka, Alaska. (*Grinnell.*)

96. Slender-billed Shearwater.

Puffinus tenuirostris (Temm.) Temm. & Schleg. 1849.

One specimen taken off Albert head, near Victoria, Vancouver island, Oct. 24th, 1891. (*Fannin.*) One specimen was secured by Dall which was killed in Kotzebue sound; single specimens have been taken at Unalaska, Sitka and Kadiak islands. (*Nelson.*) A dead bird believed to be this species was picked up on Amchitka island, and this species is said by the natives of Attu to breed on the Semichi islands. (*Turner.*) Shot off the coast of Queen Charlotte islands by Dr. Newcombe in August, 1894.

XXXIII. ÆSTRELATA Bonaparte. 1856.

98. Black-capped Petrel.

Æstrelata hasitata (Kuhl) Coues. 1866.

On the 30th October, 1894, the dead body of a black-capped petrel was picked up on the shore of the island at Toronto, Ont. (*McIlwraith.*) This bird is in the collection of Mr. J. H. Fleming who has also one other specimen taken about 17 miles to the west at about the same time. Only known records for our limits

100. Fisher Petrel.

Æstrelata fisheri Ridgw. 1883.

Described from a specimen taken on Kadiak island by Mr. Fisher, June 11th, 1882. (*Nelson.*) Mr. Nelson saw a petrel—which was possibly this bird—while passing the Aleutian islands.

XXXIV. BULWERIA Bonaparte. 1842.

101. Bulwer Petrel.

Bulweria bulweri (Jard. & Selby) Boucard. 1876.

Only one specimen known from Greenland, which was received from the Moravian missionaries. (*Arct. Man.*)

XXXV. PROCELLARIA Linnæus. 1758.

104. Stormy Petrel. Mother Carey Chicken.

Procellaria pelagica Linn. 1758.

One specimen found injured on Sable island, N.S., Nov. 4th, 1901. (*R. Boutelier.*) Two specimens taken in the Greenland seas. (*Arct. Man.*) A common summer migrant, breeding on the islands around the coast of Newfoundland. (*Reeks.*) Common all the year. Breeds on St. Paul island, Gulf of St. Lawrence, and other favourable localities; nest in a bank. (*Downs.*) One specimen found at St. John, N.B. (*Chamberlain.*) Specimens were taken in Ungava bay, 1882. (*Packard.*)

XXXVI. OCEANODROMA Reichenbach. 1852.

105. Forked-tailed Petrel.

Oceanodroma furcata (Gmel.) Reich. 1852.

A winter resident along both coasts of Vancouver island, but more abundant on the west coast; has been taken in Victoria harbour. (*Fannin.*) The Aleutian islands form the main home of this elegant bird. It is seen in the North Pacific for one or two hundred miles south of the islands; it is sometimes found on the lower Yukon and has been seen in Bering strait and about St. Lawrence island; two specimens have been taken in Kotzebue sound, so its range reaches the arctic circle. (*Nelson.*)

106. Leach Petrel.

Oceanodroma leucorhoa (Vieill.) Stejn. 1885.

Constantly observed near the coast of Greenland to lat. 64° or 65° N.; most common about the entrance to Gotthaab fjord. (*Arct. Man.*) Found southward along the whole Atlantic coast, and in all parts of the Gulf of St. Lawrence. Reeks says they probably breed around the coast of Newfoundland; and Bishop reports that they breed in small numbers on Great Bird rock, Bryon island, and possibly others of the Magdalen islands.

On the Pacific coast from California to some distance north of the Aleutian islands. (*Nelson.*) According to Dall they breed in considerable numbers on the southern Aleutian islands. Fannin took one specimen off Beacon Hill, Victoria, Vancouver island, November, 1893.

Breeding Notes.—Breeds on the Magdalen islands in the Gulf of St. Lawrence and on many of the islands off the Labrador coast. It also breeds on the Alaskan coast. I have a series of eggs taken on Sannak island, Alaska, June 30th, 1894. (*Raine.*) I never saw this bird until the summer of 1897, when I found a few pairs breeding on Bryon island, the northernmost of the Magdalen islands. Here I found three nests; no doubt there were many more, but as the bird is nocturnal in many of its habits the nest is not easy to find. On the 24th June, a beautiful day, hearing that this bird was to be met with on the island, I walked toward the east point, and after looking about for some time at length found a burrow under a stunted spruce bush about fifty feet from the edge of the cliff. I detected the birds by the musky odour in the neighbourhood of the bush. This burrow extended horizontally about two feet under the tree. After digging down I came to the nest—a mass of withered grass and bits of bark and wood—in which was one egg, incubation just commencing. The bird was on the nest, and when handled ejected an oily fluid, very rank smelling. After measuring and identifying the bird I let it go. The other two nests I found, were of the same character and under the same conditions, and some distance from the edge of the cliff. (*Rev. C.J. Young.*) Found breeding abundantly on Seal island, Yarmouth co., N.S. The soft vegetable soil of the wooded portions of the island is completely honeycombed with the nesting burrows of the petrels. These burrows run in among the rootlets of the trees some two or three feet, the one egg being deposited in the bare mould at the end. Only the strong musky odour of the birds attests their presence during the day, as not one will be seen. But at night the sitting birds sally forth and their mates who have been foraging far out at sea during the day return. (*H. F. Tufts.*) Breeding in immense numbers on Lazaria island, Sitka, Alaska. (*Grinnell.*)

XXXVII. **OCEANITES** Keyserling & Blasius. 1840.

109. **Wilson Petrel.**

Oceanites oceanicus (Kuhl) Licht. 1854.

Traced as far north as Resolution island on our outward voyage; on the homeward, first seen about one hundred miles south of Cape Farewell. (*Kumelin.*) Common and said to breed on

several of the islands along the coast of Newfoundland, especially at Port au Port. (*Reeks.*) Observed everywhere between Annisquam and the Gut of Canso and they were common and generally distributed in the Gulf of St. Lawrence. (*Brewster.*) One picked up dead in the spring of 1897 or 1898. Mr. D. J. Grant writing to Mr. J. H. Willmot, Beaumauris, Muskoka says; "The stormy petrel was found by some lads on Gull lake. It was brought to the late Mr. Burke. It was recorded by me, in error from Lake Muskoka in *The Auk*, Vol. XVIII, page 35. (*J. H. Fleming.*)

Order STEGANOPODES. Totipalmate Swimmers.

Family IX. **PHAËTHONTIDÆ.** Tropic Birds.

XXXVIII. **PHAËTHON** Linnæus. 1758.

112. **Yellow-billed Tropic Bird.**

Phaëthon americanus Grant. 1897.

Accidental in Nova Scotia. One individual of this species was taken after a storm at Shubenacadie. (*Downs.*)

113. **Red-billed Tropic Bird.**

Phaëthon æthereus Linn. 1758.

One specimen taken on the Newfoundland banks. (*Chamberlain.*)

Family X. **SULIDÆ.** Gannets.

XXXIX. **SULA** Brisson. 1760.

117. **Gannet. Solan Goose.**

Sula bassana (Linn.) Boie. 1822.

Accidental and rare in Greenland. (*Arct. Man.*) From Greenland south to New Brunswick and throughout the Gulf of St. Lawrence this species is common, breeding abundantly on the southern coast of Labrador and on the Nova Scotia coast and on Bird rocks in the gulf. Accidental in Ontario. McIlwraith mentions the occurrence of two individuals.

Breeding Notes.—I saw a number of these birds on the rocky ledges of Bonaventure island off the Gaspé coast in June, 1897. They had apparently just commenced to lay. Great numbers are also to be met with around the Magdalen islands, their principal breeding resort there, as is well known, being the Great Bird rocks, where still a considerable number hatch their young every year. I was unsuccessful in reaching their breeding ground on June 25th, owing to a dense fog, and had much difficulty in finding the land after a hard day's work. (*Rev. C. J. Young.*)

Family XI. **PHALACROCORACIDÆ.** Cormorants.

XL. **PHALACROCORAX** Brisson. 1760.

119. Single-crested Cormorant.

Phalacrocorax carbo (Linn.) Leach. 1816.

Said by Holbœll to breed from the Godthaab fjord northward; observed also on the east coast of Greenland. (*Arct. Man.*) Plentiful and breeding along the whole coast of Labrador and Newfoundland. It also breeds on the coast of Nova Scotia, (*Downs*) and on islands in Mace bay, New Brunswick. (*Chamberlain.*) Common in the Gulf of St. Lawrence (*Dionne*) and ascends the St. Lawrence and Ottawa rivers, stragglers being taken at Ottawa, Kingston, Toronto, and, according to McIlwraith, as far west as London, Ont.

120. Double-crested Cormorant.

Phalacrocorax dilophus (Swain.) Nutt. 1834.

Equally abundant with *P. carbo* and breeds in colonies along Newfoundland. (*Reeks.*) Breeds in numbers along the Atlantic coast and is of frequent occurrence in the gulf and up the St. Lawrence and throughout Ontario, though we have no account of its breeding in that province. Fleming says that the majority of the birds seen by him at Toronto were young.

It extends northward to Great Slave lake, but is rare. (*Ross.*)

Abundant and breeding from Lake Winnipeg, in the eastern part of Manitoba, westward to Old Wives lake and Crane lake in Saskatchewan.

BREEDING NOTES.—On an island in Crane lake, Saskatchewan, June 9th, 1894, I observed twenty-seven nests. The nests, built with sticks and weeds, were from six inches to a foot in height. Only nine of the nests contained eggs, and these had but one each. A few days later (June 20th) all the nests had from one to four eggs in them, and two additional nests had been built. (*Spreadborough.*) Manitoba and Shoal lakes, Manitoba, and in Buffalo lake, Alberta. (*Dippie.*) Breeds in all suitable but retired places about Prince Albert, Sask. (*Coubeaux.*) Big Stick lake, Sask. (*Bishop.*) On June 8th, 1894 I found this bird nesting on islands in Shoal lake, Manitoba. Nest of sticks and weeds containing from four to five eggs. (*Raine.*)

120*b*. White-crested Cormorant.

Phalacrocorax dilophus cincinatus (BRANDT) RIDGW. 1880.

This bird is a visitor at St. Michael, Alaska, by June 10th. It does not occur in great numbers; only a few breed there. At Besborough island, some 40 miles north of St. Michael, this bird breeds in abundance on the walls of that inaccessible island. (*Turner.*) From Race rocks to Alaska, including Howe sound and Burrard inlet and both coasts of Vancouver island; it occasionally enters the mouth of the Fraser river, and is tolerably common. (*Fannin.*) Common on both coasts of Vancouver island. (*Spreadborough.*)

122. Brandt Cormorant.

Phalacrocorax penicillatus (BRANDT) HEERM. 1854.

Two specimens of this species were killed off Beacon Hill, Victoria, Vancouver island, April 19th, 1897, by Mr. D. E. Campbell and presented to the museum. (*Fannin.*)

123. Pelagic Cormorant.

Phalacrocorax pelagicus PALL. 1826.

This cormorant was found abundantly on the Aleutian islands in May, 1877, and in the autumn of 1881. (*Nelson.*) In some localities of the Aleutian islands this form is extremely numerous; it breeds on all the principal islands. Along these islands the bird is a constant resident, apparently more numerous in winter than in summer. (*Turner.*)

Breeding Notes.—The nest is usually placed on a ledge of some bold-faced rock; in some instances about forty feet above the sea. It is large, built of sea-weed, a few grass stalks, and an abundance of its own excrement. The eggs number three or four, blue, of pale shade, to white in colour. (*Turner.*)

123*a*. Violet-green Cormorant.

Phalacrocorax pelagicus robustus Ridgw. 1884.

An abundant resident on the coast of British Columbia, taken as far north as Port Simpson; it breeds on the islands close to Sidney island, about fifteen miles from Victoria. (*Fannin.*) This is the most abundant cormorant in Alaska. It occurs everywhere on the coast of Norton sound to Sitka, and breeds on almost every rocky promontory. (*Nelson.*) This species is very common near the entrance to St. Michael. (*Turner.*)

Breeding abundantly on the more exposed outlying islands at Sitka, Alaska. The immature birds and others not breeding remained in flocks about the rocks and reefs further inland. The nests were usually situated on the shelves of rock on the perpendicular sides of the islands. I noted a row of 15 nests in a single transverse crevice on the face of a promontory. The nests are deep saucer-shaped and compactly made of grass and turf. The eggs are 2 to 4 in number, oftener 3.

Two adult females taken at Nutchuk, Prince William sound, Alaska. (*Grinnell.*)

124. Red-faced Cormorant.

Phalacrocorax urile (Gmel.) Ridgw. 1884.

This is a resident species on the Pribilof islands. It is a more or less common summer resident on St. Matthew and St. Lawrence islands as well as upon all the cliffs on both shores of Bering strait and the islands in the strait. (*Nelson.*) A single specimen of this bird was obtained at St. Michael. I did not see it elsewhere. (*Turner.*)

Breeding Notes.—This species is the earliest of the birds in Bering sea to lay its eggs. Two eggs from a bed on "the reef,' St. Paul island June 1st, 1872, nearly hatched, which is nearly

three weeks in advance of the other waterfowl, almost without exception. The nest is large, carefully rounded up, and built on some jutting point or narrow shelf along the face of a cliff or bluff; in its construction, sea-ferns (*Sertularidæ*), grass, etc., are used, together with a cement made largely of excrement. The eggs are usually three in number, sometimes four, and, compared with the size of the bird, are exceedingly small. They are oval, of a dirty whitish-gray, green and blue colour, but soon become soiled, for although this bird's plumage is sleek and bright, yet it is very slovenly and filthy about its nest. (*Elliott.*)

Family XII. **PELECANIDÆ.** Pelicans.

XLI. **PELECANUS** Linnæus. 1758.

125. American White Pelican.

Pelecanus erythrorhynchos Gmel. 1788.

Accidental in New Brunswick; one shot at Point du Chêne and another at Cape Spenser. (*Chamberlain.*) A fine specimen of this species was taken two miles south of Manotick, Ont., by John Flann, jr. (*J. F. Whiteaves.*) Mr. P. C. Jones shot a specimen on the Bay of Quinté, about eight miles from Belleville, Ont. (*W. Saunders.*) Stragglers are occasionally taken on Lake Ontario and others on Lake Erie, but there are no accounts of its breeding in any part of Ontario.

Found on all the large lakes throughout northern Manitoba and Saskatchewan. According to Seton they formerly bred on Shoal lake in Manitoba, but the settling of the country has caused them to move farther north. The writer has found them on Lake Winnipegosis, Long lake, Old Wives lake, the Great Quill lakes and Crane lake, where they were breeding in numbers. Further north they breed in still greater numbers.

First seen at Indian Head, Sask., April 18th, 1892; in May they came in large flocks and went north to breed. As soon as the breeding season is over they come back and feed in the larger lakes in the district; the greater number of those that return are males. They were breeding in numbers at Long lake, to the northwest of Indian Head, in 1879, and a few on Lake Ste. Anne,

Alberta, 1898. (*Spreadborough.*) North to Big island on the Mackenzie river. (*Ross.*) An American white pelican was taken by an Eskimo in June or July, 1900, on the shores of Liverpool bay, lat. 70° W., long. 128°, on the shores of the Arctic sea. It is now in my collection. (*J. H. Fleming.*) Not common in British Columbia. One specimen taken at Shuswap lake, October, 1890, by Col. Forester. Said to breed in the Chilcotin country. (*Fannin.*) Mr. James McEvoy, of the Geological Survey, saw one on Kamloops lake in October, 1894. Mr. Rhoads saw a specimen which had been taken on Lake Okanagan, and Dr. Dawson saw numbers in lakes in the Chilcotin country in June, 1878. These are the only records we have of its occurrence in British Columbia.

Breeding Notes.—Breeding on Lake Manitoba and Shoal lake, Manitoba, and on Buffalo lake, Alberta. (*Dippie.*) On June 18th, 1894, I found a colony of these birds nesting on a sandy island in Shoal lake, Manitoba. Nest, a hollow in the gravel, containing two eggs each. Dr. Shufeldt in his monograph on the pelican, states the bird lays but one egg, but this is an error as far as my observation goes. (*Raine.*) Richardson says they deposit their eggs on small rocky islands, and this accords with our own knowledge as in the cases mentioned above they were breeding on islands. Their nests are merely depressions in the gravel or sand, generally lined with an algoid matting that is often found blown up on the shore. Eggs, one to three, very much like those of the Canada goose, but the surface of the shell is rougher.

126. **Brown Pelican.**

Pelecanus fuscus Linn. 1766.

On the 31st May, 1885, a brown pelican was seen to alight on a salt-water marsh at River John, Pictou co., Nova Scotia, where it was approached without much difficulty and killed. Upon examination the body was found to be emaciated and the pouch entirely empty. This specimen is now in the museum at Pictou academy. On the first of June, 1893, an adult male of the same species was shot on Pictou island by Mr. J. W. Hogg. A third specimen was shot by the same gentleman on May 15th, 1895 at the east end of Pictou island. The latest record we have for this

bird is from Louisburg, Cape Breton island, N.S., where one was shot, May 19th, 1904. The specimen is in the Provincial museum at Halifax, N.S.

127. California Brown Pelican.

Pelecanus californicus RIDGW. 1884.

I was informed by a close observer that a brown pelican frequented Sumas lake, Fraser valley, B.C., for some time. (*Brooks.*) Not common; one taken at the mouth of Fraser river by Mr. J. C. Hughes in November, 1880. Since then, one was killed near Race rocks, and in September of the following year, I shot and wounded one on the flats above Seymour creek, Burrard inlet, B.C., but failed to secure it. (*Fannin.*)

FAMILY XIII. **FREGATIDÆ.** MAN-O'-WAR BIRDS.

XLII. **FREGATA** BRISSON. 1760.

128. Man-O'-War Bird.

Fregata aquila (LINN.) REICH. 1852.

Accidental on the coast of Nova Scotia and in the Gulf of St. Lawrence. One shot at Cole harbour, Nova Scotia after a southern gale. (*Downs.*) One shot at Godbout on the St. Lawrence by Mr. Comeau in 1884. (*Dionne.*)

ORDER. ANSERES. LAMELLIROSTRAL SWIMMERS.

FAMILY XIV. **ANATIDÆ.** DUCKS, GEESE AND SWANS.

XLIII. **MERGANSER** BRISSON. 1760.

129. American Merganser. Goosander.

Merganser americanus (CASS.) STEJN. 1885.

This species breeds in New Brunswick (*Chamberlain*), a migrant in Nova Scotia (*H. F. Tufts*), breeds in Newfoundland (*Ree's*), in Labrador (*Low*), on Prince Edward island and Sable island (*Macoun*), and is a common summer resident in Quebec.

Common on the Missinabi and Moose rivers, breeding on both rivers. (*Spreadborough.*) Common in Muskoka and Parry Sound districts. Regular winter resident at Toronto, Ont. (*J.H.Fleming.*) A flock of young seen on the west coast of the Bruce peninsula in June, 1889, and old birds are often seen there in summer. (*W. Saunders.*)

Breeds in the northern part of Manitoba and northwesterly to the Barren Grounds. (*Macfarlane.*) Breeding at Jasper House, Alta., 1889; a few seen along streams in the Peace River district; noted at Elk river and Kettle river, B.C. and breeding at Osoyoos lake, B.C. (*Spreadborough.*) Though Nelson and Turner say that it is only a visitor in Alaska, Grinnell found an adult female in Prince William sound and Bishop a pair breeding on Lake Tagish and adults, usually in pairs, at several other places. Both Brooks and Fannin report it breeding in British Columbia and wintering abundantly on Okanagan lake. Found breeding at Canmore and Banff, Rocky Mountains, May, 1891.

Breeding Notes.—Mr. A. P. Low found it breeding on the shores of small lakes in Labrador; eggs were taken with the bird from under small spruces on the upper part of the Hamilton river, in the summer of 1896.

Fairly common in Alberta, downy young killed June 24th, 1896, at the forks of Blindman river and the Red Deer. (*Dippie.*) Breeding on the streams and larger lakes but absent from the smaller lakes that are devoid of fish in the Cariboo district, B.C. (*Brooks.*)

This is a summer resident at Norway lake, Renfrew co., Ont., although I never obtained the nest; I have seen the bird, however, fly into a cavity in a pine tree about forty feet from the ground. I have learned that a pair breed every year in the bole of a decayed pine tree on an island in Bolis lake, Frontenac co., Ont. I have reason to believe that this species prefers, in Ontario, inland lakes bordered by woods and not large expanses of open water. (*Rev. C. J. Young.*) A pair of mergansers was breeding on a small rocky island in Lake Tagish at the entrance to Windy Arm. The nest was found by Osgood in a crevice in the cliffs about 15 feet above the water. It was made of down, and contained seven eggs. (*Bishop.*) In the *Ottawa Naturalist*, Vol. XVII, p. 153, Mr. Walter Raine

describes the finding of 30 nests of this bird on Gun island, Lake Winnipegosis. All the nests that could be reached were built far back at the end of dark passages under boulders on the highest part of the island, some nests being from four to six feet back from the entrance.

130. Red-breasted Merganser.

Merganser serrator (Linn.) Schäff. 1789.

This species breeds in Greenland and across the whole of the wooded region from Newfoundland and Labrador to the Aleutian islands. It does not breed in the prairie region, but prefers the clear lakes and streams of the north. Not very common in British Columbia, but breeds in suitable places; breeding at Deer park and Pass creek, Columbia river, B.C., June, 1890. (*Macoun.*) A number killed for food at our camp on the Barren Grounds, 50 miles south of Cape Eskimo. (*Preble.*) Winters on Okanagan lake, B.C. (*Brooks.*)

Breeding Notes.—Nests on rivers and lakes. Breeding at Buffalo lake, Alberta, also at Lake Manitoba. 1896. (*Dippie.*) Breeds at Shoal lake and Lake Manitoba, (*Raine.*) On an island in the Yukon delta Dall found six nests of this bird. They were all carefully concealed under dead leaves, and were generally sheltered by a log of driftwood, in a small hollow, lined with down from the parent's breast. They contained from six to ten rich cream-coloured eggs.

On the Alaskan coast they breed everywhere in suitable places from Sitka north to Icy cape, and perhaps to Point Barrow. The first eggs are laid early in June, and the site for the nest, on the marshes, is ordinarily the same as that chosen by other species of ducks with the usual foresight as to concealment and proximity to a pond. (*Nelson.*)

This species used to breed frequently among the Thousand islands, River St Lawrence. Only a few pairs now remain to do so, the majority going east and north. In June, 1893, I saw a flock of upwards of twenty about fourteen miles above Brockville ; of course, all adults. In the following year, in the last week in June, I saw a flock of about the same number at the "The Ducks," Lake Ontario. I have met with the nest twice at the

east end of Lake Ontario, on islands, on the 27th June, 1896, and on the 30th June the same year. On the first occasion I had landed on a rocky island, and while passing some cedars a merganser flew from underneath. I concluded there was a nest and by searching soon found it, containing six eggs. This nest was well hidden away among thick branches of cedar, and was found in a depression of the rock, it was made of dried grass and well lined with down of the bird. Incubation had commenced seven or eight days. The other nest was in a somewhat similar position, well concealed in a dry place among the rocks, perhaps ten feet above the water; this one contained ten eggs, and was precisely as the first. This species is very common on the Magdalen islands in summer. I saw numbers of them in June, 1897, and obtained fresh eggs on the 22nd of that month. They select there an island or dry spot around the brackish pools at the northeast point of the island, and the eggs were deposited in precisely the same way as those found on Lake Ontario. (*Rev. C. J. Young.*)

This bird builds a nest of dry grass, warmly lined with down and feathers. The eggs, nine or more in number, are of a creamy buff colour. From a nest situated at the Lake of the Woods, ten young were successfully hatched on the 20th June, 1897, the young birds were as large as a quail. (*G. R. White.*)

Several nests of this, not particularly numerous merganser, were obtained in the vicinity of Fort Anderson, and also in the wooded parts on both sides of the river, north and south of the post. One was found on the borders of the "Barrens," to the east, under a fallen tree, close to a small lake. It was a scooped-out hole, lined with feathers and down and contained six eggs. Ten was the maximum number taken in a nest. (*Macfarlane.*)

XLIV. **LOPHODYTES** Reichenbach. 1852.

131. **Hooded Merganser.**

Lophodytes cucullatus (Linn.) Reich. 1852.

This species is reported as a spring and autumn migrant along the Atlantic coast from New Brunswick to Labrador and in Quebec and Ontario. We have no records of its breeding in any of these provinces, except that an Ottawa writer says it is "known to breed"; and Mr. Elliott, of Plover Mills, Middlesex co., Ont.,

reports that a male flew out of the woods on the 28th June, 1889, and alighted on Plover pond, and from this fact believes it breeds in southwestern Ontario; Mr. J. H. Fleming also records it as breeding in Muskoka and Parry Sound districts.

Its centre of abundance seems to be northern Manitoba and the districts towards the mouth of the Saskatchewan; here it finds dead trees and flooded ground, which seem to be its chief requisites when breeding. After pairing, the males come south and congregate on the lakes and ponds while the females are hatching. Many broods have been seen, but very few accompanied by more than one parent. Preble records it from the Churchill river, 15 miles above Fort Churchill, and Bishop found young at Maple creek, Sask. It seems to be a common summer resident in the Rocky mountains, as an old bird with her young brood was seen at Waterton lake, lat. 49°, in July, 1895, and in July, 1897 in Crow Nest pass, 30 miles farther to the north. Breeding at Banff, Rocky mountains, May, 1891, and at the mouth of the Illecillewaet, B.C., May 20th, 1890; also found breeding in small ponds Tête Jaune Câche, B.C., by Spreadborough, in July, 1898.

This species is common throughout British Columbia; and Fannin and Brooks say it is common on the Pacific coast and in Fraser River valley and winter's on Okanagan lake. Only occasional in Alaska, where Dr. Bannister reported a flock at St. Michael in October, 1885, and shot one.

Breeding Notes.—A pair has built in an elm stub for years, at about thirty feet from the ground, at the mouth of Sharp creek, Bracebridge, Ont. The stub is on the bank of a stream. The old bird carries her young from the tree to the water in her bill. At first the young are rather helpless and are very easy to catch, but in a few days they are well able to take care of themselves. A pair of these birds was seen on Moose river, between the Canadian Pacific Railway and James bay, June 5th, 1896; another pair was seen in the interior of Labrador on July 16th the same year. In 1903 it was observed breeding from Missinabi river to Cape Henrietta Maria, Hudson bay. (*Spreadborough.*) Seen, and believed to be breeding, at Reaburn, Manitoba, June 8th, 1893. (*Dippie.*) Breeding regularly on the wooded banks of the larger rivers throughout Manitoba. Nests in hollow trees. (*George Atkinson.*)

XLV. **CASARCA** Bonaparte. 1838.

131.1. Ruddy Sheldrake.

Casarca casarca (Linn.) Allen. 1896.

In 1892 the Geographical Society of Berlin sent an expedition to west Greenland, which was accompanied by Dr. Vanhöffen as naturalist. He reports seeing the skin of this species in a small collection of birds' skins made at Augpalartok, in the district of Uppernavik, which was collected in that vicinity in 1892. (*J. A. Allen* in *The Auk*, Vol. XIII, 244, 1896.)

XLVI. **ANAS** Linnæus. 1758.

132. Mallard.

Anas boschas Linn. 1758.

Breeds in both inspectorates of Greenland and is not rare. (*Arct. Man.*) A rather common bird ; most common in the winter months; a few breed at Ivigtut, Greenland. (*Hagerup.*) On the basis of a comparison of a large series of specimens of the mallard from Greenland with specimens from Denmark Mr. Schiœler has separated the Greenland form as a sub-species under the name *Anas boschas spilogaster.* (*The Auk*, Vol. XXII, p. 331.)

It is very rare in Newfoundland and Nova Scotia, and only occasional in New Brunswick. It becomes more common in Quebec, especially in the Montreal district, and in western Ontario, as a migrant; assembles in great flocks and feeds in the marshes along Lake Erie and Lake St. Clair, where a few pairs remain to breed.

This is the most abundant duck in the Northwest Territories and British Columbia, breeding near ponds and lakes from lat. 49° to the borders of the Barren Lands. Preble saw one or two on ponds in the Barren Grounds north of Seal river. It is not a bird of the sea-coast, but prefers the ponds and lakes of the interior. It was breeding in Vermilion lake at Banff, 1891, and in Eagle pass in the Gold range, B.C., in May, 1890. It is quite common in the interior of Alaska and breeds as far north as Kotzebue sound, according to Nelson. On the Alaskan shores it is not common,

but the Aleutian islands and Unalaska are the feeding grounds of great numbers in winter. One or two pairs breed on St. Paul island, Bering sea, each year.

A few winter at Vernon, B.C. (*Brooks.*)

Breeding Notes.—A few pairs breed in the large marshes in western Ontario, especially at St. Clair flats. (*W. Saunders.*) This is the earliest duck to breed. Breeding everywhere I have been in the Northwest Territories. (*Dippie.*) Breeds throughout Manitoba, Saskatchewan and Alberta. (*Raine.*)

On May 9th, 1892, at Deep lake, near Indian Head, Sask., found a nest containing eight eggs about fifty yards from the lake in a bunch of weeds, it was made of dry grass, lined with down from the bird's breast. I have found many nests of this duck in various parts of the country. Sometimes they are quite near the water, and at other times several hundred yards away. The nest is in a hole in the ground, rather bulky, made of grass and weeds, lined with down. Some of them breed very early in the spring, so early in fact, that I have found eggs cracked with the frost. On May 4th, 1894, at Medicine Hat, Sask., discovered a nest of this species on the bank of a creek. Nest, a hole in the sand, lined with dry grass, amongst rose-bushes; there were only two eggs. On June 18th, another nest was taken under the same conditions at Crane lake; this nest contained ten eggs. June 7th, 1897, at Edmonton, Alberta, found a nest in a small clump of willows, about three hundred yards from water, the young had not left the nest and the old bird almost let me put my hand upon her before she left; also found breeding at Sooke lake, Vancouver island, in 1893. (*Spreadborough.*)

Dall, at Nulato, Alaska, found a set of eight eggs of the mallard laid on the rotten wood in the hollow top of a stump about six inches from the ground. They were concealed under a layer of leaves and feathers. (*Nelson.*)

133. Black Duck.

Anas obscura Gmel. 1788.

This is the common wild duck of Newfoundland and the Maritime Provinces. Found breeding in a marsh near Brackley point, Prince Edward island, in June, 1888, by the writer, and in the

marshes bordering fresh-water ponds on the Magdalen islands by Bishop. Although not a common bird in Labrador, Spreadborough found it breeding there July 7th, 1896. In Quebec and Ontario it still breeds in diminished numbers, but evidently its chief breeding grounds are towards the Atlantic coast and Hudson bay. A few stragglers reach Manitoba, but the writer never observed any west of the Red River valley. Macfarlane obtained the birds at the Anderson river, Mackenzie valley, but no eggs.

Breeding Notes.—A few birds of this species were seen in the northern part of Labrador, July 7th, 1896. On this date a nest was taken, containing four eggs, nearly hatched. A few breeding on the Missinabi river. Breeding in great numbers on both sides of James bay. Indians destroy great numbers of young ducks in July. Saw over 70 killed with sticks in one afternoon. (*Spreadborough.*) The black duck builds generally on the ground at the foot of a tree or low bush. The nest is composed of weeds and grass, nicely lined with feathers, apparently from the breast of the mother bird. The eggs are usually eight or nine in number, and are of a pale, dirty-yellowish drab. A nest found near Ottawa, Ont., on the 24th May, 1897, had eleven eggs in it. It was built at the foot of a little pine tree about 20 yards from the water. (*G. R. White.*) Breeds at Rice lake, south of Peterboro, Ontario. (*Raine.*)

A very common species in the St. Lawrence valley, where it breeds abundantly. I have seen young broods in the counties of Leeds and Lanark in the month of June. This bird breeds early, commencing to lay sometimes in April. I found a nest containing twelve eggs on the 24th May, 1897, under singular circumstances. Anxious to know whether the loon had again returned to its breeding-ground in a small lake about fifteen miles from Brockville, Ont., I went to the place and procured a boat. There, sure enough, was the nest on the edge of a floating bog and clump of flags, and whilst I was examining the nest and the two eggs in it, out flew a black duck from amongst the last year's flags, not an oar's length from the loon's nest. Feeling sure the eggs were there, I managed to reach the spot, though the bog was very shaky, and saw the nest with the number of eggs mentioned. The place where the nest was made was not exactly wet, as there was a matted foundation of dry weeds among which it was well concealed,

composed of dry grass and well lined with the down of the bird. Incubation had commenced about a week, which would make the time of commencing to lay about the first week in May in this case. (*Rev. C. J. Young.*) A few pairs breed in the large marshes in western Ontario. (*W. Saunders.*) At Wolfville, Nova Scotia, a nest of this species was found, in a slight hollow in the ground, lined with dry rushes, and sheltered by a clump of briar bushes. The nest contained two eggs which were only slightly incubated on May 27th, 1897. These eggs were taken by Mr. H. F. Tufts and are now in the museum at Ottawa. A nest of this species was found at Brackley point, Prince Edward island, by the writer, on June 21st, 1888, with nine young just hatched. The nest was on a hummock in a small marsh near the sandhills.

133a. **Red-legged Black Duck.**

Anas obscura rubipes BREWST. 1902.

To the red-legged race I can unhesitatingly refer only four of the breeding black ducks which I have examined. One of these (a female) was taken by Mr. L. M. Turner on July 1st, 1884 at Ungava, northern Labrador; another by Mr. John McKenzie at Moose Factory on James bay; a third by Mr. C. Drexler, on June 19th, 1860, at Cape Hope, Severn river; the fourth (a male) by Mr. E. A. Preble, on July 28th, 1900, at Fort Churchill, the two localities last named being on the western shores of Hudson bay. The summer range is not definitely known but breeding specimens have been examined from northern Labrador, James bay and the west shore of Hudson bay. (*Brewster.*) Common winter visitor in Nova Scotia. (*H. F. Tufts.*)

An adult male was collected at Fort Churchill, July 28th, and another had been shot by an Indian a day or two previously. Blakiston records a specimen received from York Factory. The species is called throughout the region the "*black* stock duck" to distinguish it from the mallard. (*Preble.*) Common migrant at Toronto, Ont. This rather doubtful form remains later than the black duck and consequently more are taken in the fall than the other. (*J. H. Fleming.*) Ducks exhibiting many of the characteristics of this variety have been exposed for sale on the market at Ottawa. These birds according to Mr. Eifrig (*The Auk*, Vol. XXIII,

page 315) are probably hybrids between black ducks used as decoys and domestic ducks. Mr. John Marshall of the Geological Survey, however, has occasionally shot ducks below Ottawa late in October which he says are undoubtedly the bird described by Brewster.

XLVII. CHAULELASMUS Bonaparte. 1838

135. Gadwell. Grey Duck.

Chaulelasmus streperus (Linn.) Bonap. 1838.

This species is rarely seen during the migration along the Atlantic coast; it is also rare in Quebec and Ontario, and McIlwraith says that the pair in his collection are the only ones he has heard of being taken in the latter province, though the bird has been shot at Ottawa by Mr. W. F. Whitcher, and Fleming records it as a rare migrant at Toronto.

McIlwraith in his "Birds of Ontario," page 70, seems to doubt my statement that they are "abundant throughout the interior." He says they are nowhere abundant and no person has made that statement but myself. Dr. Elliott Coues, in writing of the birds observed by him on the International boundary says: "Abundant throughout the region, where it breeds, like nearly all the *Anatinæ*. Young still unfledged were observed late in August." I found them abundant on the prairie in 1880, but in the wooded country in 1881 shot only one specimen. This is the species that breeds almost exclusively in the prairie region, and more than half the nests seen in 1895 in making a traverse from the boundary of Manitoba to the Rocky mountains were of this species. This and the lesser scaup were the common ducks of the southern prairie. Richardson says it breeds in numbers to lat. 68°, and Macfarlane says he believes it breeds as far north as Anderson river. One specimen was taken by Preble at Fort Churchill, Hudson bay and a few by Spreadborough between Lesser Slave lake and Peace River Landing, Atha.

It is generally a rare bird in Alaska and British Columbia, but Turner reports it common in summer in the Yukon delta.

Breeding Notes.—A pair of this species reached Deep lake, Indian Head, Sask., on April 18th, 1892, and by May 6th they were common; on June 24th found a nest on a small island in the lake, containing eight eggs. It was made of dry grass lined with down from the female's own breast. In 1895, nests of this species were taken at Twelve-mile lake, near Wood mountain, Sask., on neJu

4th, and on June 29th on an island in Cypress lake, 150 miles further west. The latter nests were in clumps of *Elymus condensatus*. Number of eggs in a set ranged from 7 to 11; breeds in large numbers at Edmonton, Alberta. On June 29th, 1894, at Crane lake, Sask., took a nest of this species containing thirteen eggs, seven of which were of the lesser scaup. (*Spreadborough.*) Fairly common on Lake Manitoba, where both eggs and specimens were taken; also common on Buffalo lake, Alberta, July, 1895. (*Dippie.*)

I have found this species breeding at Long lake, Shoal lake, and Lake Manitoba, in Manitoba; also at Rush lake and Crane lake, Sask. In fact it breeds throughout the country stretching from Winnipeg to the Rocky Mountain foot-hills. It is a late breeder and lays from ten to twelve pale, buff-coloured eggs. It makes its nest on the ground and prefers islands in the small lakes. (*Raine.*) This species breeds in considerable numbers in the large marshes bordering the south end of Lake Manitoba and I noted it quite regularly between Hamiota, Man., and Boulder lake, Sask., in 1906, and again in the fresh-water lakes and sloughs west of Ribstone creek, Alta. I did not see it at all in the salt lake region. (*Geo. Atkinson.*)

On a small knoll in a marsh at Crane lake the writer found a nest of this species in a tuft of grass on June 11th, 1894. The nest contained five fresh eggs, while at the same time young of the mallard, of a good size, were swimming around.

XLVIII. **MARECA** STEPHENS. 1824.

136. European Widgeon.

Mareca penelope (LINN.) SELBY. · 1833.

A young drake sent by Holbœll to Denmark in 1851; Reinhardt had seen two others that were killed in south Greenland. (*Arct. Man.*) Accidental in Greenland. (*Winge.*) Accidental in Nova Scotia. (*Downs.*)

In Alaska they seem to be more common. A few individuals were obtained by Mr. Elliott on the Pribilof islands during two years' residence. It was never in pairs and seemed to be a winter visitor only. As it has never been seen to the north I am inclined to believe that it breeds on some secluded island of the Aleutian

islands. (*Nelson.*) Rare. Two specimens, one taken near Victoria, February 9th, 1899, and another near Saanich, Vancouver island. (*Kermode.*)

137. American Widgeon. Baldpate.

Mareca americana (GMEL.) STEPHENS. 1824.

Reported as a common migrant in Newfoundland (*Reeks*), and southern Labrador. (*Packard.*) Rare migrant in Nova Scotia, New Brunswick and Quebec; extending its range to Moose river, where one was observed by Spreadborough in June, 1896, and the west shore of Hudson bay at Fort Churchill. It is rather more common in Ontario, but only as a migrant. This is a late duck to arrive in the prairie region, and yet, according to Richardson, it breeds abundantly as far north as lat. 68°. It breeds abundantly in the marshes of the southern part of the prairie region, and is still more abundant to the north. It is a common species in Manitoba, and northwesterly. One pair was found breeding at Banff, Rocky mountains, in May, 1891.

Fannin and Brooks report it common in the Fraser valley and interior of British Columbia, while Nelson and Turner say that it is a comparatively rare-breeding duck in Alaska, though it breeds as far north as Kotzebue sound, according to Nelson. Bishop saw five ducks which he took to be baldpates above Fort Selkirk, Yukon district.

From the species coming late to Manitoba and yet breeding as far north as lat. 68°, we are led to believe that the race which breeds in Manitoba is different from that which is found in northern Alaska and the Barrén Grounds, and that the latter race has its winter home on the Pacific side of the continent.

BREEDING NOTES.—Breeding in the vicinity of Lake Manitoba, 1896. (*Dippie.*) This species also breeds throughout Manitoba and Saskatchewan. The eggs are similar to those of the gadwell, but average smaller in size. I have a clutch of ten eggs in my collection which I took at Shoal lake, Manitoba, June 18th, 1894. (*Raine.*) A few reached Edmonton, Alberta, by April 17th, 1897, but not until May 5th were they common. On June 1st found a nest containing eleven eggs in a clump of willows about a quarter of a mile from water. The nest was of the usual character, and, like all other duck's nests, was lined with down. (*Spreadborough.*)

XLIX. NETTION Kaup. 1829.

138. European Teal.

Nettion crecca (Linn.) Kaup. 1829.

Accidental on the eastern coast of the Dominion.

A few examples have been killed in Danish Greenland. (*Arct. Man.*) Coues obtained a female in Labrador, July 23rd, 1860. (*Packard.*) Very rare in Nova Scotia. Only one specimen taken as far as I am aware. (*Downs.*) A male of this species was procured by me at Atka island, June 28th, 1879. It was the only specimen I ever observed. (*Turner.*)

139. Green-winged Teal.

Nettion carolinensis (Gmel.) Baird. 1858.

Four specimens are known to have been taken in south Greenland prior to 1860. (*Arct. Man.*) Since 1860 one male and two females have been taken in Greenland. (*Winge.*) It is a summer resident on the coast of Labrador, in Newfoundland and New Brunswick, an uncommon migrant in Nova Scotia, and seems to be rare inland in the east, although it has been taken at York Factory and Churchill and Spreadborough found it common and breeding on both sides of James bay. It may breed in Quebec, but though moderately common in Ontario is not known to breed there.

From Manitoba to the Pacific coast this bird is common and breeds from lat. 49° to the Arctic sea and throughout British Columbia and Alaska. It is rare in the Rocky mountains, but was breeding on Vermilion lakes at Banff, in May, 1891; and at Tête Jaune Câche, B. C., in June, 1898. It seems to prefer the valley of the Mackenzie for its northern range, as it is known to be rare to the eastward of that valley, and Macfarlane says that it is the rarest of the breeding ducks at Fort Anderson. Its centre of abundance is from lat. 50° to 56° in the territories.

Breeding Notes.—I found a nest containing eggs at Crane lake, Sask., June 5th, 1893. It is not so plentiful as the blue-winged teal. (*Raine.*)

Dall notes this species as one of the first arrivals on the Yukon in spring, and one of the first to lay its eggs. One set of eggs was

taken from a nest of dry grass in a sedge tussock, on May 20th, at Nulato. (*Nelson.*)

This species was breeding in great numbers in willow thickets and sparsely wooded ground around Edmonton, Alberta, in the spring of 1897. The nests were hard to find as they were far away from water. The first arrivals were about April 17th and by the 24th these birds were common. On May 25th found a nest in a clump of willows about a quarter of a mile from water. Nest made of grass lined with down. It contained nine eggs, quite fresh. Another nest of the same character was found under a log, on June 1st, about 150 yards from water. This nest contained seven fresh eggs. (*Spreadborough.*) Breeds sparingly on the Magdalen islands. (*Rev. C. J. Young.*)

L. QUERQUEDULA Stephens. 1824.

140. Blue-winged Teal.

Querquedula discors (Linn.) Stephens. 1824.

This is a rare bird in Newfoundland and in Nova Scotia, except in the autumn migrations. Chamberlain says it is a common summer resident near St. John, New Brunswick. It seems to be moderately common in Quebec and Ontario during the migrations, and a few pairs are reported still to breed on the St. Clair flats. Wintle says a few may probably breed near Montreal.

Seton says it is very abundant in Manitoba, and our own observations show that it is so westward as well, but it becomes especially so in the mixed prairie and copse country north of lat. 50°–52°. Richardson found it plentiful on the Saskatchewan, but not extending north of lat. 58°. Ross found it on the south side of Great Slave lake, and Dr. Rae on Repulse bay. Nelson and Turner found it very rare in Alaska, and Fannin says it is a very rare bird in British Columbia. Brooks claims, however, that it is a common summer resident in the lower Fraser valley, though a scarce breeder in the neighbourhood of 150-mile House, Cariboo, B.C. Rhoads found it breeding about several of the small lakes in the vicinity of Lac la Hâche, B.C.

Breeding Notes.—A pair occasionally remains to breed in the St. Lawrence valley, but the greater number pass to the north. The

nest has been found at Gananoque lake, and one is recorded from a marsh at the west end of Amherst island, Lake Ontario. (*Rev. C. J. Young.*)

A few pairs of this species breed in the marshes at Lake St. Clair; nests have also been taken at Rondeau, Lake Erie. (*W. Saunders.*)

Only one pair was observed in Labrador, at Clearwater lake, July 11th, 1896. They were evidently breeding. This species was common at Edmonton, Alberta, in the spring of 1897. It was first observed on April 28th, and was common by May 2nd. On May 19th found a nest far from water, built exactly like that of the green-winged teal. It contained two fresh eggs. Bird shot as she rose from the nest. Noted at the mouth of Lesser Slave river and on the Peace river, Atha. Seen at several places east and west of Midway, B.C. in 1902 and 1903. (*Spreadborough.*)

A nest of this species was taken June 14th, 1896, at Burnt (Swan) lake, Alberta. It was in a hollow in a tuft of grass, lined with a fine grass and down, about twenty yards from edge of water. Nest contained twelve eggs, now in the museum at Ottawa. (*Dippie.*)

141. Cinnamon Teal.

Querquedula cyanoptera (VIEILL.) CASSIN. 1855.

A very rare straggler in Manitoba, only a few specimens having been taken in fifteen years residence. (*R. H. Hunter.*) Two or three specimens seen near Crane lake, Sask. in 1905. (*A. C. Bent.*)

Kermode, Fannin, Lord and Brooks say it is a regular summer visitor in British Columbia. Only two specimens came under our notice on the prairies. These were in southwestern Alberta, near the mountains.

In the smaller and more retired woodland lakes along the Cariboo road above Clinton, B.C., I frequently flushed the cinnamon teal. Mr. D. McKinley, Lac la Hâche says the "red teal" breeds sparingly in that neighbourhood every year. (*Rhoads.*)

LI. SPATULA BOIE. 1822.

142. Shoveller. Spoon-bill.

Spatula clypeata. (LINN.) BOIE. 1822.

This species is a summer migrant in Newfoundland, Nova Scotia, New Brunswick, Quebec and Ontario, but we have no record of its

breeding, except that McIlwraith says that Dr. Macallum observed one leading its young within half a mile of Dunnville, at the mouth of the Grand river, Lake Erie, and Saunders and Morden say it may breed on the St. Clair flats.

It is one of the commonest ducks in the prairie region, from Manitoba to the mountains and from lat. 49° to the Barren Grounds, where it becomes rare, as Macfarlane says only a couple of specimens were collected at Fort Anderson in six years. Spreadborough saw it in nearly all the sloughs between Lesser Slave lake and Peace River Landing, Atha. Between lat. 51° and lat. 54° it is especially abundant, and it is found in the autumn in immense numbers in every pond and lakelet. It has been taken at Moose Factory and Trout lake. A few pairs were breeding on Vermilion lakes, at Banff, in May, 1891; and at Lake Ste. Anne, Alberta, June, 1898. It is a rare species in Alaska, though Nelson reports it breeding as far north as Kotzebue sound. Fannin says it is an abundant summer resident on the mainland of British Columbia, east of the Coast range, and Brooks says it is a common resident in the lower Fraser valley about Sumas lake, and a scarce breeder in the neighbourhood of 150-mile House. Cariboo; Spreadborough saw it at Elko and Penticton, B.C.

Breeding Notes.—Common near Reaburn, Manitoba, and also at Buffalo lake, Alberta, where both eggs and birds were taken. (*Dippie.*)

This species breeds with other water-fowl on all the marshes from Kotzebue sound to the mouth of the Kuskoquim. The eggs are deposited the last of May and first of June in a dry spot near some pond or stream, and the nest is usually lined with grass and feathers, the latter from the parent's breast. (*Nelson.*)

This species was found breeding plentifully near small streams descending from the Cypress hills and by small marshy lakes at Crane lake, Saskatchewan, June 9th, 1894. While beating rose-thickets for nests the writer flushed a female off a nest containing ten eggs, too much incubated to be taken; shortly after, I flushed another, nesting in the same manner, but there were only eight eggs in the set, quite fresh. Both nests were under rose-bushes on dry ground and lined with grass and down. On the 11th June, in some patches of rose-bushes, I found two more nests, one having eleven and the other nine eggs.

LII. **DAFILA** STEPHENS. 1824.

143. Pintail. Springtail.

Dafila acuta (LINN.) BONAP. 1838.

Very rare in Newfoundland; more common in Nova Scotia, and Chamberlain reports a few breeding in New Brunswick. It has been taken in Davis strait and at York Factory, Hudson bay. Spreadborough found it breeding on both sides of James bay and in thousands along the west coast of the bay in August, chiefly north of Albany. It is not a rare migrant in Quebec and Ontario, and according to Saunders a few breed on St. Clair flats.

This species breeds in numbers throughout the Northwest Territories from lat. 49° to the Arctic coast. Richardson and Macfarlane both speak of its abundance on the Barren Grounds. Preble saw hundreds on the shallow ponds of the Barren Grounds, 50 miles below Cape Eskimo. Nelson and Turner say that this is the commonest duck in Alaska, and Murdoch reports it breeding quite close to Point Barrow on the Arctic sea. It is a resident in British Columbia and breeds on the mainland. Fannin says they congregate in great flocks in some localities on the coast in winter, but more especially on the lower Fraser. Brooks found it to be a scarce breeder at 150-mile House, Cariboo, B.C.

BREEDING NOTES.—This species breeds at St. Clair flats and in fewer numbers at Rondeau, Lake Erie. (*W. Saunders.*) Breeding commonly in Manitoba and Saskatchewan. It seldom lays more than nine eggs and nests in similar situations to the shoveller. Its eggs can be distinguished from those of the shoveller by their larger size. Two clutches of nine eggs each are in my collection taken at Rush lake, Sask., May 25th and 28th, 1893. Both nests were in hollows in the grass, were lined with down and found near water. (*Raine.*)

This is about the first water-fowl to commence nesting. The date when the first eggs are laid varies from May 18th to 25th, according to the season. The eggs are placed in a depression on some tussock or among the grass and other vegetation beside a pool, usually where it is pretty well concealed. The eggs number from six to twelve in a set. They are rather small, and usually pale olive-green when

fresh. The nest is lined with grass-stems and feathers. When the young are hatched the parent leads them to the adjacent pool, and they keep in the most secluded parts of the marsh until able to take wing. (*Nelson.*)

Breeding in some numbers at Edmonton, Alberta, although no nests were taken; two nests of this species were taken at Twelve-mile lake, near Wood mountain, Sask., on June 5th, 1895; the nest in one case was made of the dried stems of *Eleocharis palustris* and lined with down. It contained ten eggs almost fresh. Another was taken amongst some sage-brush a little distance from the water. This nest held seven fresh eggs. A few nests of this species were taken on an island in Cypress lake, south of the Cypress hills, June 29th, 1895; the nests were in clumps of rye-grass (*Elymus condensatus*), and one female was shot as she rose from the nest. (*Spreadborough.*) Quite abundant in the "Barrens." The nest was usually a small cavity or depression in the ground, lined with down, withered leaves, and a few feathers. It lays from six to eight eggs. It deserts the nest immediately the eggs are hatched and young and old take to the water. (*Macfarlane.*)

LIII. **AIX** Boie. 1828.

144. **Wood Duck.**

Aix sponsa (Linn.) Bonap. 1838.

Rare. A few breed in Nova Scotia. (*Downs.*) A rare summer resident. Breeds in New Brunswick. (*Chamberlain.*) Stearns reports it as common in the interior of Labrador, but none of our explorers have ever seen a specimen there. Wintle says not many breed around Montreal, but they are plentiful in the autumn and mostly young birds. Summer resident around Ottawa, and breeds in Dow swamp, close to the city. Breeds in suitable places throughout southern Ontario, but much rarer now than formerly. A common summer resident in Parry Sound and Muskoka districts. That it occurs, perhaps in abundance, in northwestern Ontario is indicated by its occurrence in numbers in eastern Manitoba and along the shores of Lake Winnipeg. Seton shows that it occurs as far west as Carberry, over one hundred miles west of Winnipeg, and it has been seen on Lake Winnipegosis, and shot at Cumberland House, in lat. 54°. Murray records it from Moose Factory, James bay, and from Trout lake.

We have never observed this species on the prairie west of Manitoba or in the Rocky mountains, but after crossing the Coast range and descending to the lower Fraser, at Agassiz, we found it breeding. Fannin reports it abundant and breeding along the lower Fraser at Sumas, Chilliwack, and Burnaby lake; and Brooks says that an odd bird or two often remains all winter. Spreadborough saw two at Midway, B.C., and one on a small pond in the woods at Penticton, B.C.

This is another species that has an eastern and a western race that are not known to interbreed.

Breeding Notes.—For several years a pair used to breed in a soft-maple stub, about twenty feet from the ground, on the bank of a creek near Bracebridge, Ont. I never saw the nest, so cannot describe it, but have seen the old bird carry her young to the water in her bill. (*Spreadborough.*) This species builds in holes in trees and places where large branches have broken away. The nest is composed of dry grass and feathers. The eggs—six to twelve or more—are something between a buff and a pale green in colour. When the nest is built on a broken branch it is composed of dry sticks, grass and feathers. About the first of May is the time when they begin to lay at Ottawa, Ont. (*G. R. White.*) A few years ago this handsome duck was quite common in the latter part of summer in many creeks that run into the St. Lawrence. In these same localities now (1898) I scarcely see any birds. A few pairs breed every year at Estcott pond and elsewhere in the county of Leeds, and I have seen young birds in June, though I have never seen the nest. It also breeds sparingly in north Hastings co., Ont. Two or three broods were brought out this year (1906) at Moira lake near Madoc. (*Rev. C. J. Young.*) Regularly distributed throughout western Ontario. Breeds along marshes and rivers. (W. *Saunders.*)

LIV. **AYTHYA** Boie. 1822.

146. Redhead. Pochard.

Aythya americana (Eyt.) Baird. 1858.

Rare migrant in Nova Scotia and New Brunswick, and also rare on the coast of Labrador, none seen in the interior. Rather common in the Gulf and River St. Lawrence, and, according to McIlwraith, often abundant in Ontario during the migrations. Saunders reports them breeding in the large marshes at Lake St. Clair.

This species is very common in Manitoba and in the marshes to the north and west. It is found in more or less abundance all through the prairie region but is more common as we approach the large weedy marshes north of lat. 51°. This and the next species are so much alike that they are easily mistaken for one another. Our experience, however, is that this duck is more southerly and easterly in its distribution than the canvas-back. It is a winter resident on the coast of British Columbia, and both Streator and Fannin report it breeding in small numbers around small lakes in the interior. It has not been reported from Alaska.

Breeding Notes.—A very common migrant in western Ontario. Some breed in the large marshes, especially at St. Clair flats. (*W. Saunders.*) The writer has never found the nest of this species anywhere but among the reeds on the margins of sloughs. The nests are bulky, being made of reeds and grass lined with down.

Breeds throughout Manitoba, Saskatchewan and Alberta, and makes its nest in shallow water. It is a remarkable fact that the redhead and canvas-back often lay their eggs *in one nest.* I have never seen this statement recorded in any ornithological work. This was first brought to my notice on June 18th, 1891, when I found a nest at Long lake containing eight eggs of the canvas-back and four of the redhead. There was considerable difference in the eggs of the two birds. The eggs of the canvas-back were larger than those of the redhead and of a different tint, being of the usual ashy green, while the four eggs of the redhead were smaller than those of the other and were of a buff-drab tint and very glossy. There was not the slightest doubt about the eggs being laid by both species. Since then my collectors have frequently found nests containing eggs of the canvas-back and redhead in the same nest. On May 20th, 1897, Mr. Baines found a nest at Crescent lake, Manitoba, containing nine eggs of the canvas-back and seven of the redhead. The nest was built in rushes in shallow water. (*Raine.*)

147. Canvas-back Duck.

Aythya vallisneria (Wils.) Boie. 1826.

Rare migrant in Nova Scotia and New Brunswick; more plentiful in Quebec, and increasingly so in Ontario.

Although this species breeds in the same ponds with the redhead in Manitoba and Saskatchewan, it is rare in eastern Manitoba, but becomes more common as one passes to the west; west of the 110th meridian it almost supersedes the redhead. At Edmonton, on the Saskatchewan, in 1897, Spreadborough found this species very common, and the redhead rare and late in arriving; in 1898, he found it breeding in small lakes between Edmonton and Lake Ste. Anne, Alta.

Macfarlane and Ross record it on Great Slave lake, and the former says a few sets of eggs were taken near Fort Anderson in the Barren Grounds. Dall found it breeding at Fort Yukon, in Alaska, in great abundance, though Nelson says he never saw any evidence of it on the west coast. Spreadborough, Brooks and Fannin all mention that it is plentiful in winter around Victoria and at the mouth of the Fraser, and Fannin says it breeds in the interior of British Columbia; Brooks says it winters on Lake Okanagan and is a common breeder in the Cariboo district, B. C.

As the writer has seen it in immense numbers on Lesser Slave lake and in the Peace River country, he is satisfied that it breeds from Indian Head northwesterly to Fort Yukon in Alaska. The country northwest of Edmonton suits it well, as there are many marshes full of *Scirpus lacustris* and tall grasses among which it likes to breed

Breeding Notes.—Fairly common at Reaburn, in Manitoba, and at Buffalo lake, Alberta. In both places eggs and birds were procured. (*Dippie.*) Breeding in marshes south of Lake Manitoba but not so numerous as the last species. (*Geo. Atkinson.*) Nests are always in the reeds growing in the water; they are very bulky, and made of grass and reeds lined with down. A nest of this species was found on a muskrat house in a marsh at Crane lake, June 15th, 1894. It contained seven eggs. (*Spreadborough.*) I have found this species breeding at Long lake and Shoal lake, Manitoba, and at Crane lake, Sask. It breeds also throughout Alberta. The only other species of duck's eggs they can be compared with are the American and Barrow golden-eye, which they greatly resemble, both in regard to size and tint. The canvas-back is a late breeder, nesting toward the latter part of June. I found a nest containing seven eggs at Long lake, Manitoba, June 29th, 1893. The nest was

built, as usual, in the centre of a tuft of rushes in shallow water, as this duck seldom nests in the grass like the pintail, shoveller, and teal. (*Raine.*) The nests are bulky platforms of reeds, similar to coots' nests; found generally on small swampy ponds, away from the larger lakes, where the males associate in flocks. Eggs were taken from May 21st to June 6th, 1902. (*Brooks.*)

Scaups, canvas-backs and redheads undoubtedly breed in the same marshes, and with them the ruddy duck. In the marshes at Crane lake, between June 12th and 20th, the writer found nests of all four species, with eggs of one or two other species in them. The bulky nest mentioned under the greater scaup was likely built by a canvas-back, but the larger number of the eggs were those of the the scaup.

148. American Scaup Duck. Big Blackhead.

Aythya marila (LINN.) BOIE. 1822.

A very rare straggler in Newfoundland; Dr. Grenfell brought a specimen from Nain, Labrador; migrant in Nova Scotia, and occasionally taken in New Brunswick. Seven taken by Boutelier on Sable island in 1901. Spreadborough observed a few breeding on James bay and in the interior of Labrador in 1896. Quite common in Quebec, and abundant in southwestern Ontario during the spring and fall migrations. A regular winter resident at Toronto. Not rare in the St. Lawrence valley in the spring and autumn. Preble saw a large flock near Fort Churchill, Hudson bay.

Breeding on Lake Winnipegosis, but evidently the greater number go north, and doubtless breed around the large lakes north of Lake Winnipeg. It is a common duck in Alaska and along the whole Aleutian chain, and, according to Turner, remains the entire year.

An abundant resident in British Columbia; breeds chiefly east of the Coast range; winters on the coast. (*Fannin.*) Tolerably common in the lower Fraser valley, and wintering on Lake Okanagan, B.C. (*Brooks.*)

BREEDING NOTES.—Eggs taken at Buffalo lake, Alberta, June 14th, 1896. Seems to breed in most localities. (*Dippie.*) Breeding in small lakes between Edmonton and Lake Ste. Anne, June, 1898. Nest always near water; it is a shallow hole in the ground, lined with grass and down. (*Spreadborough.*) A few breed at Lake Winnipeg. (*Gunn.*)

On the Magdalen islands in June, 1897, I met with this species at East Cape, Grosse isle, breeding, and secured its eggs. A few pairs breed on the small, boggy islands in the large ponds, not far from the sand-banks that separate these ponds from the sea. The eggs are about the size of those of the merganser, but are more of a buff colour, and their peculiar shape, which is almost invariable, best distinguishes them. They are not laid until late in June. A correspondent wrote me about two nests he found in July, after I left the islands, as follows:—"I found a blue-bill's nest in a strange place, after you left me. It was in a bunch of rushes at the head of the bay, growing in water that took me up to my middle to reach them. There were two nests, one with two and the other with five eggs. The two were fresh and the others badly incubated." (*Rev. C. J. Young.*) A nest with nine eggs was discovered on a small island in "the Great pond," Magdalen islands. It was a bed of down in the grass. (*H. K. Job.*) A very common migrant. A few pairs breed at St. Clair flats. (*W. Saunders.*) Both the greater and lesser scaups breed at Crane lake and in and near the adjoining marshes. On June 15th, 1894, the writer found a nest of the species, containing ten eggs, it was in a hole in the ground and lined with feathers and grass. Three days later another nest of eleven eggs was taken under the same conditions. In a marsh on the 14th a large nest containing eleven eggs was found among rushes (*Scirpus lacustris*); nine of these belonged to the scaup, and the two larger and quite blue eggs were referred to the canvas-back. Passing out of the rushes I flushed another scaup out of the grass and found a nest made of dried grass and lined on the sides with down. This nest contained twelve eggs, and still another had twenty-one fresh eggs, evidently of three species—lesser scaup, redhead and ruddy duck.

Breeds throughout northwestern Canada, but is rarer than most other ducks; breeding more commonly further north. On June 10th, 1891, at Rush lake, Saskatchewan, I found a nest containing nine eggs, built on the ground amongst grass, near water. The eggs are distinguished by their large size and drab tint. (*Raine.*)

At St. Michael and the Yukon delta this species arrives about the 8th or 10th May. The nesting sites chosen are such as the pintail and most other ducks choose—a dry, grassy tussock or knoll close to some pond; the only difference being that this species appears to desire a position nearer to the water, and the nest is

frequently at the point of some small jutting cape, and so near the water that the parent can swim to and from the nest. The eggs are large for the size of the bird, and rarely exceed eight in number. The nest is composed of dry grass-stems, gathered close at hand, and a largely fluffy bed of down plucked from the parent's breast. The first week in June is the time usually chosen for depositing the first eggs, but some are not laid until nearly a month later. (*Nelson.*)

149. Lesser Scaup Duck. Blue-bill.

Aythya affinis. (Eyt.) Stejn. 1885.

A pair was shot in June on Inosusulik, an islet about ten miles from Egedesminde; it may breed in Greenland. (*Arct. Man.*) A male and a female taken in Greenland in 1872 and a female in 1891. (*Winge.*) Breeds in large numbers on Nottingham island in Hudson strait; and at Churchill and York Factory, Hudson bay. (*Dr. R. Bell.*) One killed at Humber river, Newfoundland. (*Louis H. Porter.*) A rare summer migrant in Nova Scotia. Once captured a brood of young ones on Grand lake. (*Downs.*) In New Brunswick, Quebec and Ontario, this is only a migrant, and I strongly suspect that some of the breeding stations mentioned are those of the greater scaup, which is certainly a more eastern bird than this species. It is one of the commonest ducks in the prairie region and northward to the very edge of the Barren Grounds. It breeds in all the ponds and by the little lakes from lat. 49° to the Arctic circle and beyond. Nelson says this is a very rare straggler in Alaska. Bishop saw a pair with young on a small pond at Lower Labarge, Yukon river. Fannin and Brooks report it tolerably common in British Columbia. The latter says it winters on Lake Okanagan, B.C.

Breeding Notes.—This species was first seen at Deep lake, Indian Head, Sask., on April 16th, 1892, at which time eight individuals were observed; they very shortly after came in great numbers, and a pair shot had their stomachs full of water-insects, which are very abundant in the lake. On June 23rd found a nest containing nine eggs. The nest was in the middle of a "slough" in a mass of last year's rushes (*Scirpus lacustris*), lined with down from the bird's own breast. (*Spreadborough.*) Three sets of eggs taken at Burnt lake, Alberta, June 14th and 15th, 1896; breeds also in Manitoba, but nowhere common. (*Dippie.*)

More numerous than the preceding species, breeding throughout northwestern Canada. In Saskatchewan it usually nests on the small islands in the lakes. On June 15th, 1893, I found three nests on a small island where a colony of avocets was nesting. The nests were built on the grass in hollows, lined with down. The eggs, like those of the preceding species, are dark drab, but of course much smaller in size. (*Raine.*) Breeds generally throughout Manitoba and the west. When the young are hatched the males forsake the females and flock together in large numbers on the open water, leaving the entire charge of the young to the mother. (*Geo. Atkinson.*)

Over a dozen nests of this species were secured. They were usually found in the midst of a swamp, a mere hole or depression in the centre of a tuft of turf or tussock of grass, lined with more or less down, feathers and hay. Nine was the general number of eggs in a nest, though a few contained not more than six or seven. (*Macfarlane.*)

On the 29th June, 1895, this species was found breeding in company with the pintail and gadwell on an island in Cypress lake, on the south side of Cypress hills, Sask. Of three sets taken, two contained eight and one nine eggs.

150. Ring-necked Duck.

Aythya collaris (Donov.) Ridgw. 1885.

Five seen by R. Boutelier on Sable island, in 1901. Reported to be rare in Newfoundland, Nova Scotia and New Brunswick. It becomes more common in Quebec and still more so in southwestern Ontario. It seems to be only a migrant in all the eastern provinces. Manitoba and the ponds, lakes and marshes to the north of it seem to be its summer home. We have never observed it in the prairie regions and only know of one breeding haunt—the marshes around Waterhen lake, Manitoba. Raine says it appeared to be more numerous in northern Alberta than in Manitoba. Owing to its eastern migration I believe it to breed in great numbers both north and east of Lake Winnipeg. Ross has noticed it occasionally as far north on the Mackenzie as lat. 62° 30′. Turner says this bird is not common in the vicinity of St. Michael. In this locality he never found nest or eggs, but it undoubtedly breeds there. It is rarely seen about the Aleutian islands.

Common in the valley of the lower Fraser. None of the redheads, canvas-backs or scaup ducks were ever found breeding by me in the Fraser valley. This species winters on Lake Okanagan, B. C. (*Brooks.*)

Breeding Notes.—Rarer than either of the preceding species. On June 19th, 1891, I found a nest containing nine eggs at Long lake, Manitoba. The nest was made of sedges and lined with grasses, feathers and down, a basket-shaped structure, built in the centre of a tussock of rushes. The eggs are olive-gray with a buffy tinge and are very similar to eggs of the scaup duck in size and colour. (*Raine.*) A rather scarce breeder in Cariboo district, B. C. I was able to take only one set of eggs, evidently a second laying as there was no down. This was on June 27th. The nest was in a tussock of grass in eight inches of water; it was composed of coarse, green grass and arched over with the drooping blades of the tussock. (*Brooks.*)

LV. **CLANGULA** Leach. 1819.

151. American Golden-eye. Whistler.

Clangula clangula americana Bonap. 1896.

An abundant winter resident on the Atlantic coast.

Often breeding in trees in Newfoundland. (*Reeks.*) Breeds abundantly at Humber river, Newfoundland. (*L. H. Porter.*) Migrant in Nova Scotia. (*H. F. Tufts.*) Seen on the Moose river and James bay in June, 1896; none seen in the interior of Labrador. Common on Missinabi and Moose rivers in June 1903, and plentiful in the autumn. Breeding down both rivers. (*Spreadborough.*) Specimens taken in Ungava bay and at Fort Churchill, Hudson bay; seen passing north of Lake Mistassini by Mr. J. M. Macoun on May 3rd, 1885. In Ontario and Quebec it is a common migrant, but we have no records of it breeding in these provinces.

This species is tolerably common in Manitoba and in the wooded part of eastern Saskatchewan, where it breeds, and northerly to Norway House, north of Lake Winnipeg, where it was found by Dr. R. Bell. Without any doubt its chief breeding-ground is toward the mouth of the Saskatchewan, and down the Nelson and Churchill rivers. Preble found it to be rather common between Norway

House and Oxford House and a few were seen every day between Knee lake and York Factory. As it breeds chiefly in poplar trees, it will be found generally breeding where these trees are in profusion. The writer has found this bird breeding on Buffalo lake, near Methye portage, in lat. 56° N. Spreadborough observed it from the mouth of Lesser Slave river to Peace River Landing and Ross says it extends to the Arctic coast in the Mackenzie River valley, and is not rare.

This is an extremely rare bird on the western and northern coasts of Alaska. In four years I saw only four birds. It is a common duck in the interior, and reaches the mouth of the Yukon in the breeding season. (*Nelson.*) I am confident that a flock of ducks seen about 25 miles above Circle City, Alaska, Aug. 12, 1899, were this species or *C. islandica*. (*Bishop.*) It winters on the west coast from Unalaska (*Turner*) to the Fraser river and Lake Okanagan, where it is abundant. (*Brooks.*) Seen by Spreadborough at Douglas, Hope, Penticton, Sidley and Elko, B. C., and recorded by Brooks as common during migrations in the Cariboo district, B. C.

Breeding Notes.—A small flock of these birds was observed about the Bay of Quinté, Lake Ontario, in August, 1897, and two or three were shot a little later; it is very probable a pair or two nested not far off. (*Rev. C. J. Young.*)

This bird prefers to nest in a tree some fifteen or twenty-five feet from the ground. The nest is composed of grass, leaves and moss, and lined with feathers. The eggs, eight or more in number, are of an ashy-green colour. It lays about the middle of May, or later. In 1894 a pair of these birds built near a large pond within a short distance of Templeton, Que., a few miles from Ottawa, and raised a small brood of five. On the 23rd of June these youngsters were quite able to dive and follow the old bird twenty yards under water. (*G. R. White.*)

Fairly common in Manitoba and Alberta. Downy young shot at Reaburn, Manitoba, July 4th, 1893. (*Dippie.*) In June, 1892, at Deep lake, Indian Head, Sask., various nests of this species were taken in hollow trees. One was found in a hollow cottonwood, about fifteen feet from the ground, and another in a hollow elm tree, about twenty-five feet from the ground. This nest was made of rotten wood lined with down. Another was in an elm stub, and

the hole by which the bird entered was about five feet from the ground. The nest itself was on a level with the ground, and made of rotten wood without any down. I think they do not use down until after they begin to sit, and that it is added to keep the eggs warm when away feeding. I also found a nest in a hollow cottonwood log on the ground. None of the nests were more than seventy-five yards from the water, and some only a few feet from it. (*Spreadborough.*) Breeds throughout Manitoba, northern Saskatchewan and Alberta, laying its eggs in holes in trees. (*Raine.*)

152. Barrow Golden-eye.

Clangula islandica (Gmel.) Bonap. 1842.

Breeds in south Greenland only, apparently not further north than Godthaab. (*Arct.Man.*) Stragglers have been taken all along the Atlantic coast from Hudson strait south to the Bay of Fundy. They are more abundant to the north and become rare in the gulf, though they are taken on the St. Lawrence and on Lake Ontario and Lake Huron.

Dr. Elliott Coues records in his "Birds of Montana and Dakota," the occurrence of a brood of this species on Chief Mountain lake, Waterton lake, Rocky mountains, on the United States side of the International boundary. In 1895 the writer saw a few specimens at the north end of the same lake, and in July, 1885, a female and young were obtained at Kicking Horse lake, Rocky mountains. Dr. Richardson named the species from a specimen taken in the Athabasca pass, and Macfarlane took two specimens as far north as Fort Anderson. It is of rare occurrence in Alaska, but young were taken at Chilcat as early as April 24th by Nelson.

Regular visitor in British Columbia. (*Lord.*) During the breeding season of 1891 I found this duck very abundant on nearly every lake along the Cariboo road; it has also been taken by Mr. W. B. Anderson at Port Simpson, on the coast of British Columbia. (*Fannin.*) Rare inland except in summer, but common on the coast of British Columbia. (*Brooks.*)

Breeding Notes.—I have had eggs sent me which were taken out of a hollow tree at Devil lake, near Banff, Rocky mountains. (*Raine.*) A rather scarce breeder in the neighborhood of 150-mile House, but common in La Hâche valley. One set of eggs was taken

from a hole in a dead Douglas fir, fifty feet from the ground, probably the deserted nest of a flying squirrel. The tree stood about four hundred yards from the nearest water. I saw another nesting hole but was unable to reach it. The female brought fourteen young ones from this. (*Brooks.*)

LVI. **CHARITONETTA** Stejneger. 1885.

153. Buffle-head. Spirit Duck.

Charitonetta albeola (Linn.) Stejn. 1885.

One taken in 1827 at Godthavn and another at Frederikshaab in 1891. (*Winge.*) Rare migrant in Newfoundland and Nova Scotia. Chamberlain says it is a common resident in New Brunswick, and supposes it breeds there. Rather common migrant in Quebec and Ontario, and reported by Saunders to breed rarely in the Bruce peninsula. This species, like the golden-eye, prefers the vicinity of lakes and deep ponds and river valleys where there is timber. It is a summer resident in all the forest country from Manitoba northwesterly to the Rocky mountains, northeasterly to Hudson bay, and according to Ross descends the Mackenzie river to the Arctic sea. Nelson and Turner report it as a rare bird in Alaska, but more common on the upper Yukon where it was also found by Bishop. Streator, Fannin, Spreadborough and Brooks report it common and breeding in British Columbia, and wintering on the coast, and the latter says it winter's on Lake Okanagan, B.C.

Breeding Notes.—Rare in Alberta but breeds there. Three downy young were shot June 20th, and five more June 22nd, 1896, at a small lake about eight miles northwest of Red Deer, Alberta. (*Dippie.*) Breeds throughout northwestern Canada. One of the rarer ducks. I have both eggs and young taken in the downy stage at Long lake, Manitoba. A set of seven eggs in my collection was taken out of a tree at Long lake. It appears that when trees are scarce, as along the Missouri Côteau in Saskatchewan, this bird will lay its eggs in a hole in a bank as the belted kingfisher does. There are no trees in that part of Saskatchewan, which accounts for this little duck laying its twelve eggs at the end of a gopher burrow, in a bank along the side of a small lake one mile north of Rush lake. Another clutch of ten eggs was taken out of a hole in a tree at Oak

lake, Manitoba, May 25th, 1890. The eggs are more rounded than those of any other duck. The eggs of the buffle-head are larger than those of the teal and of a darker and warmer tint. On June 11th, 1906, my son and I found two nests of this bird. Both were built in holes in poplar trees. The birds in both cases sat close, the female flying out of the hole on the tree trunk being struck with a stick. (*Raine.*)

Almost every lake in the Cariboo district has one or more pairs of these charming little ducks. Unlike the Barrow golden-eye, the nests were always in trees close to, or but a short distance away from water. These nests were invariably the nesting holes of flickers, and in most cases had been used several years in succession by the ducks. The holes were in aspen trees, from five to twenty feet from the ground, and the entrance was not more than three and a quarter inches in diameter. The number of eggs ranged from two to nine, eight being the average; in colour they resemble old ivory, without any tinge of green. I have several times seen the eggs of this duck described as "dusky green", but these have evidently been the eggs of some species of teal. The female buffle-head is a very close sitter, never leaving the nest until the hole was sawed out, and in most cases I had to lift the bird and throw her up in the air, when she would make a bee-line for the nearest lake, where her mate would be slowly swimming up and down unconscious of the violation of his home. In many cases the eggs had fine cracks, evidently made by the compression of the bird's body when entering the small aperture. (*Brooks.*)

LVII. **HARELDA** Stephens. 1824.

154. Old-squaw. Long-tailed Duck.

Harelda hyemalis (Linn.) C. L. Brehm. 1855.

Common on the whole coast of Greenland, breeds also on the Parry islands, and on the land westward of Davis strait. (*Arct. Man.*) Very common along the whole Atlantic coast south of Greenland. Breeds in Ungava bay (*Turner*), and Low reports it to be common everywhere in Hudson bay and northward wherever there are small islands along the shore suitable for breeding. Spreadborough noticed a pair off Cape Jones, in June, 1896. Payne found

them very common in Wales sound, Hudson strait, reaching there about June 1st, 1885. Common in the gulf and river St. Lawrence and westward to Lake Ontario, and occasionally as far west as London, Ont. Fleming records one as having been taken at Port Sydney, Parry Sound, and several were picked up on the ice at Beaumaris, Muskoka, in 1899. Raine reports that in the winter of 1898 thousands of these ducks might have been seen any day in Toronto harbour. A single specimen said by Atkinson to be the only one of this species known to have been recorded from Manitoba was collected at Whitehead lake, southern Manitoba, by Mr. H. W. O. Boger.

Spreadborough observed a few at Lesser Slave lake in May, 1903, and Richardson, Ross and Macfarlane report it breeding along the Arctic coast, and Macfarlane says it breeds in large numbers on the Anderson river. Several sets of eggs were taken on Herschell island for Mr. Raine by the missionaries Stringer and Whittaker. Turner, Nelson and Murdoch say that this is a common duck from the mouth of the Mackenzie westward all around the whole coast of Alaska. It winters along the entire Aleutian chain and down the Pacific coast of British Columbia, where Fannin says it is frequent in winter.

Breeding Notes.—This bird is a sea-duck, breeding northerly. A clutch of seven eggs in my collection was taken at the mouth of Mackenzie river June 20th, 1894. The nest was built on the ground under a small willow. (*Raine.*) The long-tailed duck was common on Ellsemere island and its nest was often found near fresh-water lakes. (*E. Bay.*)

From the Yukon delta along the coast, in each direction, their nests are almost invariably placed in close proximity to a pond or tide-creek—the sloping grassy bank of the ponds being a favorite situation. The earliest set of eggs secured by me numbered five and was taken on May 18th at St. Michael. From that date until the end of June fresh eggs may be taken, but the majority of the young are out by the last of that month. The parents always keep in the immediate neighbourhood of the nest and swim about in the nearest pond when the nest is approached. An unusual amount of dry grass-stems, and down plucked from the parent's breast, compose the nest, and if the eggs are left they are carefully

hidden in the loose material. (*Nelson.*) During the breeding season, at Point Barrow, each pair seems to adopt a pool of its own, and drives out all intruders. They breed in considerable numbers all over the tundra, but the nests are scattered and not easy to find. The nest is always lined with down and generally near a pool. (*Murdoch.*) This species breeds in great numbers in the neighbourhood of Fort Anderson, along the Anderson river, on the Barren Grounds and the shores of the Arctic sea. Considerably over one hundred nests were taken, and the eggs varied from five to seven, the latter being the maximum number recorded in any one instance. In its make-up the nest is very similar to that of *Dafila acuta*. From presonal observation, also, I have come to the conclusion that the usual quantity of down taken from the duck's breast depends on the number of eggs in the set. (*Macfarlane.*) Several pairs breed each year on St. Paul island, Bering sea. One nest was found in 1897 beside a path leading to a well which was visited many times during the day. The female seldom left the nest when people passed along the path; indeed, no one else knew of the nest when I took five eggs from it. Unless the bird were looked at she did not move. I several times passed within a foot of the nest without looking toward it, then walking back would look at the bird, when she rose immediately. (*J. M. Macoun.*) Before or about the time that the young are hatched and brought to the ponds by their mothers, the males have forsaken their usual haunts on these and have left for the open sea. This occurs early in August. The nests are placed almost anywhere on the flat ground near the ponds, usually on a little rise. On June 12th I found a nest and nine fresh eggs about forty feet from the village pond on St. Paul island. It was placed on a little hillock on the killing-ground. When flushed, about ten feet off, the bird flew directly to its mate. Leaving the eggs, I returned soon to find that she had been back, had covered them completely with down and dry short grass, and returned to the pond. June 17th, before 8 A.M., I found a nest—merely a few pieces of short grass-stems—containing one egg. Each morning thereafter at the same time I found another egg and more nest-material, including, from the second morning, an addition of black down, which was always placed on and around the eggs, not beneath, and which was evidently from the bird's own breast. (*William Palmer.*)

LVIII. HISTRIONICUS Lesson. 1828.

155. Harlequin Duck.

Histrionicus histrionicus (Linn.) Boucard. 1876.

Observed on the east coast of Greenland; most common between lat. 62° to 65° N.; rarer to the northward. (*Arct. Man.*) Breeds at Godthavn, Vestbjord and other places in Greenland. (*Winge.*) A common summer migrant in Newfoundland, breeding on the borders of lakes and rivers. (*Reeks.*) A rare winter migrant around Nova Scotia. (*Downs; H. F. Tufts.*) A rare spring and autumn visitant in New Brunswick. (*Chamberlain.*)

Abundant in Hudson strait—breeds in Ungava bay; plentiful on the eastern coast of Labrador. (*Turner.*) This bird was most numerous during the month of June at Cape Wales, Hudson strait. Apparently it does not breed, as it disappeared after that date. (*Payne.*) Forster recorded a specimen from the Hudson bay region, Blakiston says he examined one at York Factory and a specimen is recorded from James bay. (*Preble.*) Occasional in Quebec and Ontario.

Richardson and Ross both speak of this being a rare bird toward the north and along the Arctic coast. Richardson says it frequents eddies under cascades and in rapid streams in the north. Dr. Coues found it breeding in turbulent streams entering Chief Mountain lake (Waterton lake), near the 49th parallel; and the writer, in July, 1885, found a mother and a young brood in a very rapid stream entering Kicking Horse lake at Hector, Rocky mountains, on the Canadian Pacific railway, at an altitude of 5,000 feet. Spreadborough found this species breeding at Canmore, near Banff, Rocky mountains, in June, 1891. A pair was shot, and others seen. He saw five on the Arrow lakes, May 18th, 1902. During the summer of 1898, this species was seen in many of the mountain tributaries of the Athabasca by the same observer. Both Nelson and Turner mention this bird as very common in the bays and along the coasts of Alaska, but it does not breed on the coast. Later collectors in Alaska do not appear to have found this bird to be very common. Nelson says it breeds on the clear streams of the interior, which agrees with our knowledge further to the south. Fannin says: "An abundant resident; breeds along the creeks close to the salt water

at Burrard inlet and Howe sound, and also in the interior of British Columbia." Brooks says a few breed in the valley of the lower Fraser and that it is a scarce summer resident in Cariboo district, B. C.

Breeding Notes.—This species breeds at the mouth of the Mackenzie river, for one of my collectors sent me eight eggs with the skin of the parent bird. The nest was found on June 19th, 1894. It was built on a high bank, near some ice-floes, under sticks piled up by overflow water in the spring. One of the eggs in the nest is a runt, one-third the usual size. The eggs of this bird have seldom been obtained in North America. It breeds in Iceland, and lays from six to eight eggs, seldom more. They are similar to those of the gadwell and baldpate, but average larger, and are of a deeper buff tint. (*Raine.*)

The nest and eggs of this species were not procured by me, and the only nest I ever saw was near Iliuliuk village, on Unalaska island. Two immense blocks of rocks had become detached from the cliff above, and when they fell their edges formed a hollow place beneath. Under these rocks I discovered a deserted nest, which the native who was with me asserted was that of a bird of this species. The form was similar to that of the nest of *H. hyemalis*, and in fact so closely resembled it that I persisted in it being of this bird until the native asked me if I did not know that the "Old Squaw" did not build in such places. (*Turner.*)

LVIX. **CAMPTOLAIMUS** Gray. 1841.

156. Labrador Duck. Pied Duck.

Camptolaimus labradorius (Gmel.) Gray. 1841.

Now extinct. Formerly abundant on the Labrador coast and perhaps in Hudson strait and bay. Mr. William Dutcher, in an able paper published in *The Auk*, for January, 1894, shows, although 1852 has been given as the date when the last specimen of this species was killed, that from that date to 1875 occasional specimens were taken and vouched for as being seen in the flesh. He can find no trace of the bird having been seen since 1875 and reluctantly concludes that it is extinct.

LX. POLYSTICTA Eyton. 1836.

157. Steller Duck.

Polysticta stelleri (Pall.) Eyton. 1836.

Recorded in the east only from Disco bay, Greenland, from Cumberland sound and from Godbout and Point des Monts, Quebec. The Godbout specimen was secured by Mr. N. A. Comeau in Feb., 1898. Previous to that time Mr. Comeau had noticed individual birds, which he did not recognize, among flocks of well known species. After examining the Steller eider he came to the conclusion that the birds formerly seen by him were that species. A more detailed account of the occurrence of this bird was published by Mr. A. K. Fisher in *The Auk*, Vol. XVII, p. 65.

Throughout the Aleutian chain it is a common resident, very abundant in winter, but less common in summer. It also breeds upon St. Lawrence island and a nest has been taken on Unalaska. (*Nelson.*) This duck is rare at St. Michael; on the southern and eastern shores of Bristol bay and the northern shores of Alaska it is plentiful. Among the Aleutian islands it is rarely seen in summer, in winter it abounds at Unalaska. (*Turner.*) This beautiful little duck is far from a rare bird during the late spring and summer at Point Barrow and vicinity. Their breeding ground appears to be some distance off, as they leave to breed about the end of June. (*Murdoch.*)

Breeding Notes.—Dall says the pairing season of this species, in Alaska, commences about May 1st, and thence through the breeding season they are found in pairs. He also states that if a nest is visited it is abandoned at once. He found a nest on May 18th, 1872, on a flat part of a small island near Unalaska. It was built between two tussocks of dry grass, and the depression was carefully lined with the same material. The nest was entirely concealed by overhanging grasses, and was revealed only by the bird flying out at his feet. The nest contained a single egg. (*Nelson.*)

LXI. ARCTONETTA Gray. 1855.

158. Spectacled Eider.

Arctonetta fischeri (Brandt) Blakiston. 1863.

The spectacled eider has until very recently been credited with a very restricted range on the Bering sea coast of Alaska. My

own observations show this species to be strictly limited to the salt marshes bordering the east coast of Bering sea, thus favouring the shallow, muddy, coast waters, which appear to be distasteful to Steller duck. (*Nelson.*) This bird is common in the vicinity of St. Michael, where it arrives early in May. Along the coast of Bristol bay it is very abundant; it occurs among all the Aleutian islands, where it breeds and is a constant resident, but extremely shy. (*Turner.*) This bird was found to be a regular, though rather rare, summer visitor at Point Barrow. It evidently breeds not far from the station, as a female was taken in June, 1883, with an egg in the oviduct just ready for laying. (*Murdoch.*)

Breeding Notes.—In the vicinity of St. Michael this species rarely arrives before the 15th of May. Very soon after reaching their destination the flocks disband and the birds quietly pair, but the first eggs are rarely laid earlier than the first of June. Most of my eggs were taken fresh between the 10th and 20th of this month, and I obtained the young just out of the egg on July 23rd. When first paired the birds choose a pond in a marsh, and are henceforth found in its vicinity until the young are hatched. When the grass commences to show green and the snow and ice are nearly gone, these ducks choose some dry, grassy spot close to a pond, and making a slight hollow with a warm lining of grass, they commence the duties of the season, although the other denizens of the marsh are already well on with their house-keeping. One nest found on June 15th was on a bed of dry grass on the border of the pond, within a foot of the water, and when the female flew off, the single egg could be seen 20 yards away. Tussocks of dry grass, small islands in ponds, and knolls close to the water's edge are all chosen as nesting places, and as a rule the nest is well concealed by the dry grass standing about. The eggs usually number from five to eight or nine in a set and are small for the size of the bird. In colour they are of a light olive-drab. (*Nelson.*)

LXII. SOMATERIA Leach. 1819.

159. Greenland Eider. Northern Eider.

Somateria mollissima borealis C. L. Brehm. 1830.

Common along all the coasts of Greenland; northern limit unknown. (*Arct. Man.*) A resident at Ivigtut and very abundant. (*Hagerup.*) Abundant in Hudson strait; breeds in Ungava bay.

(*Packard.*) Northeastern North America, south in winter to Massachusetts. (*A. O. U. List.*) Abundant north of Hamilton Inlet, Labrador. (*Bigelow.*) Winter visitor in Nova Scotia. (*H. F. Tufts.*) According to Dr. Schmitt this bird is common on Anticosti. It arrives in September and departs at the end of April or beginning of May and nests on the Mingan islands. (*Dionne.*) Common around Fullerton, Hudson Bay and in all the region north to North Devon. (*A. P. Low.*) The eider duck (*Somateria mollissima*) is to be seen everywhere on the coasts of Ellsemere island as soon as there are splits in the ice in the spring. Its food consists mainly of the prickly and little attractive sea urchin. The nests are sometimes found singly, scattered about on the shore, sometimes on islets in the rivers (now and then far up the valleys), and sometimes on the small islands. Thus numerous eiders breed on St. Helena and Djævelöen, which were the only bird islands met with by the expedition. The eiders remain in the autumn as long as there is the smallest amount of open water. This is partly because the broods do not begin to fly until very late in the season. Eider-duck were seen as late as October 17, 1901, in a creek at Ytre Eidet in Hvalrosfjord. (*E. Bay.*) It is probable that some of the Hudson Bay references under the next species should go here.

160. American Eider.

Somateria dresseri. SHARPE. 1871.

The most abundant species of duck in Newfoundland, but rapidly growing scarce owing to the destruction of eggs. (*Reeks.*) Common. Breeds on Isle Haut, Bay of Fundy. (*Downs.*) Abundant south of Hamilton inlet, Labrador, where it takes the place occupied by *S. borealis* in the north. (*Bigelow.*) Resident in Nova Scotia. Nest with seven eggs taken on Seal Island, June 1906. (*H. F. Tufts.*) Common in winter on the south coast of Labrador, in the Gulf of St. Lawrence, and up the St. Lawrence to Quebec. (*Dionne.*) Eider ducks in immature plumage, which I take to be this species, have been occasionally shot at Montreal in the fall. (*Wintle.*) Rather common from York Factory northward. Said to breed in large numbers on certain rocky islands north of Fort Churchill. (*Preble.*) Common in Hudson strait, and seen at York Factory and Churchill and on the East Main coast of Hudson bay. (*Dr. R. Bell.*) Common from a short distance north of Moose Factory to Richmond

gulf, June, 1896. (*Spreadborough.*) Casual on the Ottawa river. Mr. G. R. White, on November 7th, 1889, shot a young male of this species on the Ottawa river, after a strong easterly gale, near the city. Mr. J. H. Fleming, of Toronto, doubts the occurrence of this bird at Toronto. All specimens seen by him were king eiders.

Breeding Notes.—Mr. Fraser found the eider duck breeding on the small islands along the coast of Labrador. The nest was built in a hollow among soft, short grass, or at the foot of a rock where it was sheltered from the wind. It was composed of grass, and lined with slate-coloured down from the breast of the bird. (*McIlwraith.*) Breeding on rocky islands in Richmond gulf, Hudson bay. Nest composed of weeds and grass, lined with down from the bird's breast. (*Spreadborough.*) Breeds abundantly along the Labrador coast. Sets of eggs in my collection were taken July 9th, 1896, in Ungava bay. (*Raine.*) Breeds in great numbers on sandy islands off the mouth of George river, James bay. (*J. M. Macoun.*)

161. Pacific Eider.

Somateria v-nigra. Gray. 1855.

Murray recorded this species from Severn House, Hudson bay. (*Preble.*) A male specimen of this species was shot by the writer at Fort Resolution on Great Slave lake in 1858, and a female was obtained by Mr. Alexander Mackenzie in 1861 at the same place. (*Ross.*) This interesting bird breeds in immense numbers on the shores of Franklin bay; it is also very abundant on the coast and islands of Liverpool bay. (*Macfarlane.*) This species is quite common at Point Barrow during the migrations, but does not breed there, going farther to the eastward. (*Murdoch.*) Along the coast of the North Pacific, both shores of the Aleutian islands, and all the islands of Bering sea and the coast of the adjoining Arctic ocean to the northern limit of the mainland, is the broad area over which the breeding range of this bird extends. (*Nelson.*) This bird is to be found in all parts of Alaska that have come under my observation. (*Turner.*) Six adult females and one adult male were taken by Anderson at Seldovia, Kenai peninsula, Alaska, and one adult female opposite Homer. One set of four and one of five eggs were taken on Bird island, Seldovia. (*Chapman.*)

Breeding Notes.—At St. Michael this species breeds in considerable numbers, and there prefers the open tundra for a nesting

place. A nest was found with eleven eggs on the hillside about half a mile back of "the redoubt." The nest which was made in a mossy situation, consisted of a few blades of grass and was well lined with sooty-coloured down from the abdomen of the bird itself. Along the Aleutian islands this bird prefers the steep slopes heavily clothed with rank grasses, such as wild rye (*Elymus*), which grows in huge tussocks, among which the nest is hidden. A slight depression is scratched out; the eggs are placed on the bare ground, the down being used as a cover for the eggs when the parent is absent from the nest; it is plucked from the breast for that purpose only, and increases in amount as the increased complement of eggs demands a greater amount of covering. The eggs are never placed on the down. The nest, when first scratched, is usually left to dry out several days before it is used, as the bare spots were seen sometimes a week before an egg was deposited. With the first egg, only a little down is found in the nest, and it will be replaced two or three times if removed. When the nest is full of eggs, and they, with all the down, are removed, the bird seeks some other locality for again laying fewer eggs, generally not more than five for the second nest. (*Turner.*) Several sets of 5 to 8 eggs were collected for me by Rev. C. E. Whittaker on the mainland opposite Herschell island. The nests of down were built among rank grass growing along the sea coast. (*Raine.*) Bishop saw no specimens of living eiders at St. Michael or elsewhere in Alaska in 1899, so this bird may be becoming rarer in that region.

This bird breeds in immense numbers on the coast and islands of Liverpool bay. The nest is usually a shallow cavity in the ground, more or less plentifully lined with down. The eggs are generally five, and but rarely six or seven, in number, of a pale sea-green colour with a tinge of olive. We found some nests on a sloping bank at a distance of three or four hundred feet from the sea. Others were found on the mainland, but the bulk of those secured by us were obtained from sandy islets in the bays. (*Macfarlane.*)

162. King Eider.

Somateria spectabilis. (Linn.) Leach. 1819.

Said not to breed further south than lat. 67°, but in some numbers at lat. 73°; also on the east coast of Greenland and on the western shores of Davis strait; breeds abundantly on the Parry islands.

(*Arct. Man.*) Abundant on the Atlantic coast of Labrador, where it is reported to breed; nest and eggs found near Mingan. (*Packard.*) Somewhat less common than the ordinary eider but still very frequently to be met with on Ellsemere island. The nests were never found though it must certainly breed as it was seen about all summer. (*E. Bay.*) Common in the northern part of Hudson bay, especially about the limestone islands where they breed on the islands in the numerous ponds. Do not breed on islands in open water like the American eider. (*A. P. Low.*) Arrives in Wales sound, Hudson strait, about May 5th and begins to breed as soon as the ice is off the small islands. (*Payne.*) Common along the coast of Newfoundland and a rare winter visitant along the coasts of Nova Scotia and New Brunswick. One specimen taken on Lake Mistassini in May, 1885, by Mr. J. M. Macoun. A single specimen taken in James bay, June, 1896, by Mr. A. P. Low, and another at York Factory by Dr. R. Bell.

Occasional specimens, of young birds chiefly, are taken on Lake Ontario and Lake Erie. (*McIlwraith.*) Not uncommon at Toronto, Ont., in November and December; a few remain through the winter. Birds in full plumage are rare; a male taken, November 18th, 1895, by Mr. C. W. Nash, is fully adult. (*J. H. Fleming.*) On February 24th, 1900, a specimen of this species was taken at Duncrief millpond, Middlesex Co., Ont. (*R. Elliott.*)

Occasionally noted in the interior of Alaska, where Dall found a dead specimen. During the months of July and August it was found in large numbers near the ice-fringed coast of Alaska from Icy cape to Point Barrow and thence eastward. It is also common in Bering strait and on St. Lawrence island and to the northwest of the strait. (*Nelson.*) This is by all means the most abundant bird at Point Barrow. They appear early in spring at a distance from shore and pass steadily and swiftly past Cape Smythe to the northeast, following the coast. It is probable that they turn east after passing the point, as they return from the east in the autumn. (*Murdoch.*) An immature male was shot at Calgary, Alberta, on November 4th, 1894; it was in company with another described as very white. (*Dippie.*)

Breeding Notes.—This species breeds sparingly at St. Michael. I never obtained its nest, but saw the birds under circumstances that cause me to assert that it breeds there. (*Turner.*) At Point

Barrow the majority of this species are paired by the middle of May, and the flocks are made up of pairs flying alternately. Early in June straggling pairs and small parties settle about the tundra pools and breed sparingly in the neighbourhood of the station. (*Murdoch.*)

This species is tolerably common in Franklin bay, where fully 200 eggs were procured between 1862-1865. The nest is similar to that of the Pacific eider and when not disturbed the female lays from four to six eggs. In colour they are generally of a light shade of olive-gray, and some are of a grayish-green. (*Macfarlane.*) On June 10th, 1905, Rev. C. E. Whittaker collected a set of the eggs of this eider for me on Herschell island. The nest was built amongst grassy hummocks along the sea beach. (*Raine.*)

LXIII. OIDEMIA Fleming. 1822.

163. American Scoter.

Oidemia americana. Swains. 1831.

Obtained at the mouth of the Koaksoak river. Abundant in Hudson strait and on the eastern shore of Labrador, where it is reported to breed sparingly. (*Turner.*) Common on the Labrador coast. (*Bigelow.*) Common throughout the year around Newfoundland. (*Reeks.*) A common migrant in Nova Scotia. (*Downs.*) An uncommon spring and autumn migrant at St. John, New Brunswick. (*Chamberlain.*) Passed north at Lake Mistassini, Que., May 15th, 1885. (*J. M. Macoun.*) Common in June, 1896, from Cape Jones to Richmond gulf, Hudson bay. (*Spreadborough.*) Fort Churchill, Hudson bay. (*Wright.*) Preble gives several records for the west coast of Hudson bay. Not uncommon on the Gulf of St. Lawrence and up the St. Lawrence and Ottawa rivers.

Casual on Lake Ontario and lakes Huron and Erie. It is not rare in Manitoba, but never breeds, passing to the north for that purpose. We have no detailed account of its breeding grounds in the east but believe they are around Hudson bay. Richardson says this species frequents Hudson bay, breeding between the 50th and 60th parallels. Macfarlane says it undoubtedly breeds in the Anderson River country, although he never received any well authenticated eggs.

Along the Alaskan shores of Bering sea and Kotzebue sound these scoters are abundant summer residents. They breed abundantly about the mouth of the Yukon and at other suitable localities around the various islands. (*Nelson.*) This species breeds at St. Michael, but more abundantly further up the coast; among the Aleutian islands it is to be found throughout the year. (*Turner.*) Noticed a few in Wrangell narrows and saw a number off Unalaska, Alaska. (*Bishop.*) It is not a common visitor in British Columbia, but it has been found on the coast and in the interior by Fannin, who saw a small flock on May 10th, 1891, at 108-mile House on the Cariboo road.

Breeding Notes.—At the mouth of the Yukon, Dall found a nest of this species in a bunch of willows on a small island, on June 17th. It contained two white and rather large eggs, and was well lined with dry grass, leaves, moss and feathers. At St. Michael these ducks are never seen until the ice begins to break up off shore. May 16th is about the earliest date of arrival I have recorded. The mating is quickly accomplished, and a nesting-site chosen on the border of some pond. The spot is artfully hidden in the standing grass, and the eggs, if left by the parent, are carefully covered with grass and moss. As the set of eggs is completed, the male gradually loses interest in the female, and deserts her to join great flocks of his kind along the seashore, usually keeping in the vicinity of a bay, an inlet, or the mouth of some large stream. (*Nelson.*)

164. Velvet Scoter.

Oidemia fusca (Linn.) Steph. 1824.

Collected in south Greenland and now in Copenhagen museum. (*Winge.*)

165. White-winged Scoter.

Oidemia deglandi Bonap. 1850.

Common around Newfoundland and may breed; a winter migrant around Nova Scotia and a migrant in spring and autumn in the Bay of Fundy. Tufts says a few males spend the summer along the Nova Scotia coast. Flocks were seen in July, 1888, off the gulf coast of Prince Edward island, and Bishop speaks of a flock remain-

ing for weeks off Grindstone island, Magdalen islands, in 1887. At Anticosti it arrives about the end of May and remains about a month. Reported by Audubon to breed on the east coast of Labrador. Bishop reports it abundant on the Labrador coast and often flocking with the next species.

Abundant from Moose Factory to Richmond gulf, Hudson bay, June, 1896. Common on west coast of James bay in July and August, 1904. (*Spreadborough.*) It is common on the St. Lawrence and frequent on the Ottawa river, and not a rare migrant on Lake Ontario and Lake Erie. Spreadborough saw two on Lake Muskoka in September, 1899. There can be no doubt that it breeds all the way north to Hudson bay, as it has been seen on all the large lakes in summer.

A common migrant in Manitoba and stays so late that undoubtedly some breed near the larger lakes. First seen at Deep lake, Indian Head, Sask., May 13th, 1892; common by June 5th; shot a female June 22nd that had an egg in her oviduct nearly ready to be laid; must breed there as I saw them on Deep lake every day up to July 1st, when I left. Common on Lake Ste. Anne, north of Edmonton, Alta., June 9th, 1898, and on all the larger lakes from Lesser Slave lake, Atha., to Peace River Landing, in 1903. (*Spreadborough.*) Numerous at Manito lake, Sask., and westward. (*Geo. Atkinson.*) Rare at Crane lake, Sask. (*Bishop.*)

Breeds throughout the districts around Fort Anderson (*Macfarlane*) and on the Arctic coast towards the mouth of the Mackenzie. (*Richardson.*) Abundant resident in British Columbia; winters on the coast, and found during the summer both on the coast and in the interior of the mainland. I have no record of its breeding place. (*Fannin.*) Remains all winter on Lake Okanagan, B.C. (*Brooks.*) Abundant in April and May at Douglas, B.C. Seen in April on Lake Okanagan and in May on the Arrow lakes, B.C. (*Spreadborough.*) A small flock of this species was seen by the writer on Upper Arrow lake, Columbia river, June 16th, 1890, and a few pairs were probably breeding in the vicinity; others were seen at Banff, Alberta, on May 8th, 1891.

This species is less common than the American scoter or the surf scoter. It breeds in very small numbers about the mouth of the Yukon, and in other localities; at St. Michael it is not rare and

becomes more common in the autumn. (*Nelson.*) I found this scoter to be rare in all localities visited by me. (*Turner.*) Fairly numerous at Bocadequadra, Wrangell narrows and Lynn canal. We saw two at Lake Marsh, two on Lake Lebarge and about twenty-five flying up 50-mile river from Lake Lebarge. (*Bishop.*) One male taken at Point Barrow, Alaska. (*McIlhenny.*)

Breeding Notes.—Audubon found this species breeding in Labrador. The nests were built by the sides of small lakes, two or three miles distant from the sea, and usually placed under low bushes. They were formed of twigs, mosses and various plants matted together, and were large and almost flat, several inches thick, and lined with feathers. (*McIlwraith.*) On June 16th, 1896, I shot a female at Burnt lake, Alberta, which contained a fully developed egg. (*Dippie.*)

On June 26th, 1893, Mr. G. F. Dippie and myself found a nest containing nine eggs on an island at the south end of Lake Manitoba. The nest was built between loose boulders and consisted of a hollow in the sand lined abundantly with dark down. The eggs were very large and of a deep, rich, buff colour. The bird sat very close upon the nest and did not fly up until I almost trod upon her. It appears to be a late breeder, nesting late in June on the islands of lakes Manitoba and Winnipeg. Mr. Neuman sent me an egg of this bird which he took from a female he had shot at Swan lake, northern Alberta, on June 25th, 1897. (*Raine.*)

We observed this species twice on Knee lake, Keewatin—a small flock on July 7th and a few on September 8th as we were returning. Many breed about the borders of small ponds throughout the interior and large numbers are killed for food before they are able to fly. (*Preble.*) Breeding in nearly all the marshes and ponds around Prince Albert, Sask. (*Coubeaux.*)

It breeds in large numbers throughout the region under review, as several nests were found in the "Barrens," some near the fort, and a few on the lower Anderson and in other parts of the wooded sections; these were always depressions in the ground, lined with down, feathers and dried grass, and placed contiguous to ponds or sheets of fresh water, frequently amid clumps of small spruce or dwarf willow and fairly well concealed from view. The number of eggs found in a nest varied between five and eight. (*Macfarlane.*)

Rhoads and Brooks both record seeing this bird in numbers near 150-mile House, Cariboo district during the summer, and believe that it breeds there, though neither of them found a nest or saw young.

166. Surf Scoter. Sea Coot.

Oidemia prespicillata (LINN.) STEPH. 1824.

A few specimens obtained from the Danish settlements in Greenland. (*Arct. Man.*) Breeding sparingly along the coast of Labrador. (*Turner.*) Abundant on the Labrador coast. They came down the coast late in August and were soon very numerous on the fiords. (*Bigelow.*) Common along the coast of Newfoundland, especially during the breeding season. (*Reeks.*) Migrant along the coast of Nova Scotia and New Brunswick; also in the Gulf and River St. Lawrence. It is a rare migrant near Ottawa, Ont., but more common on Lake Ontario. Fleming records a young bird taken at Beaumaris, Muskoka district, Ont., by Mr. Taverner.

Rare in Hudson strait, but quite common from Cape Jones to Richmond gulf in Hudson bay, June 1896; very abundant on the west coast of James bay in July and August, 1904. (*Spreadborough.*) Rather common in Hudson bay, south of Cape Eskimo. One taken on Churchill river near Fort Churchill, another near Pine lake and several were seen at Robinson portage, Keewatin. (*Preble.*) This is a common species on the Arctic coast, and breeds abundantly both there and on the "Barrens" along the Anderson river, near Fort Anderson. (*Macfarlane.*) Saw a few on Lesser Slave lake, Atha., in 1903. (*Spreadborough.*)

Abundant everywhere on the coast waters of British Columbia. (*Fannin.*) Remains on Lake Okanagan throughout the winter. Seen throughout the summer in Cariboo district, but does not breed. (*Brooks.*) Common about Burrard inlet during the latter part of April, 1889. (*Streator.*) Saw ten on the Arrow lakes, B.C., May 18th, 1902. Very abundant at Douglas, B,C., April and May, 1906. (*Spreadborough.*)

Nelson and Turner both report this as a very common duck in Alaska, but seem to know little of its breeding habits. Its great breeding grounds are very likely the "tundra" bordering the arctic coast southwest of Point Barrow. Bishop saw many specimens in

Alaska and northern British Columbia. No females were seen though they were undoubtedly nesting in the vicinity of Lake Lebarge.

Breeding Notes.—This species breeds commonly on the marshes along the Yukon, even above Fort Yukon. The main breeding ground of this species remains unknown to me, for although females and young were not rare in summer, yet they were not numerous enough to account for the vast number of males to be found. From the fact that immense flocks of the males are constantly seen off the coast in summer it is evident that the females assume the duty of incubating the eggs and rearing the young. (*Nelson.*) The remarks made under *O. deglandi* happen to be, in almost every respect, equally applicable to the present species—the only difference noted being that generally less hay and feathers were observed in the composition of its nest. (*Macfarlane.*) Audubon observed this species breeding in Labrador. He found a nest in a fresh-water marsh, among the tall grass and weeds. It was composed entirely of withered weeds, lined with the down of the bird, and contained five eggs of a pale-yellowish or cream colour. (*McIlwraith.*) I have a set of eight eggs taken at the delta of the Mackenzie river, June 26th, 1901. The nest was made on the bank of the river amongst drift wood. (*Raine.*)

LXIV. **ERISMATURA** Bonaparte. 1832.

167. Ruddy Duck.

Erismatura jamaicensis (Gmel.) Salvad. 1896.

A rare and uncertain visitor on the Atlantic coast, though reported from Newfoundland, Nova Scotia and New Brunswick. More common in Quebec, and according to McIlwraith, generally distributed in Ontario.

Abundant migrant near London. A few pairs breed in the marshes at St. Clair flats. (*Saunders & Morden.*) In eastern Ontario this is a rare duck. It is occasionally met with in the autumn at Big bay, Wolfe island near Kingston, Ont. (*Rev. C. J. Young.*)

This is a common summer resident in Manitoba and Saskatchewan, breeding on all the deep and reedy ponds. Stragglers have been taken on Hudson bay, and Richardson says it breeds as far north as lat. 58°;

Spreadborough saw it at Egg lake and Stinking lake, Peace River district; Ross says that it goes north to Great Slave lake, but is rare. It is a regular summer resident in the interior of British Columbia, having been found breeding in the lakes along the Cariboo road by Fannin in 1891. Brooks says it is a rare autumn visitor in the lower Fraser valley.

Breeding Notes.—Breeds on Lake Manitoba; and on Buffalo lake, Burnt lake and many others in Alberta. On June 14th, 1896, took a nest with two eggs and one egg of the canvas-back. (*Dippie.*) I have never found the nests of this species except in reeds and tall grass growing in water on the margin of lakes and sloughs. Nests rather bulky, made of grass. Saw a female with four young, about a week old, on June 21st, 1896, in northern Labrador. This species was found breeding sparingly from Richmond gulf to Ungava. (*Spreadborough.*) I found this species breeding on Shoal lake, Manitoba, June 8th, 1894, and at Crescent lake, Sask., June 13, 1901. (*Raine.*)

I have found the ruddy duck breeding at Raeburn and in other large marshes in Manitoba but met with it more regularly between Yorkton and Saskatoon, Sask. Did not observe it west of Saskatoon. (*Geo. Atkinson.*) A common breeder in the Cariboo district, B.C. Young when first hatched are, as might be expected, very large and dive for their food, unlike all other young ducks, which take their food from the surface for some weeks. (*Brooks.*)

The ruddy duck lays a beautiful, and for the size of the duck, a large egg, and lays a great number, unless two or more lay in the same nest, which is probably the case. It was common in 1894 at Crane lake. The nest was usually amongst "cat-tails" (*Typha latifolia*), while the scaups and redheads preferred to breed among rushes (*Scirpus lacustris*). One nest was taken containing seventeen fresh eggs, fourteen of which belonged to the ruddy duck, two to the canvas-back and one to the redhead. Bluish-green and creamy white eggs in the same nest made quite a contrast.

LXV. **CHEN** Boie. 1822.

169. **Lesser Snow Goose.**

Chen hyperborea (Pall.) Boie. 1822.

Numerous in the spring about Fullerton, Hudson bay. Found breeding on Southampton island at the end of June. Nests in

swampy ground, built up of moss and grass. (*A. P. Low.*) A few seen on James bay, the last week in August, 1904. (*Spreadborough.*)

Messrs. Taverner and Swales record in *The Auk*, Vol. XXIII, p. 219, the taking of two Ontario specimens of this bird; the first, an immature male at Point Pelee, Ont., in 1905, the second, an adult male, at Goose creek, St. Clair flats, Ont., November 5th, 1905.

This handsome goose is uncommon on the coast of Norton sound and about the Yukon mouth. It arrives in spring, between the 5th and 15th of May, according to the season, and after remaining a short time passes north. (*Nelson.*) This species occurs only sparingly in the vicinity of St. Michael, and remains but a few days till it goes farther north. I am not aware that it breeds south of the Arctic circle. (*Turner.*) All the snow geese taken at Point Barrow were of this species. They are not at all common, but are occasionally met with during the spring migrations. (*Murdoch.*) I saw five snow geese at the Aphoon mouth, Alaska, August 28th, and a large flock at St. Michael, September 11th. (*Bishop.*) A winter resident on the coast of British Columbia. Tolerably abundant. During some winters large numbers congregate off the mouth of Fraser river. (*Fannin.*) The rarest of the geese in the Fraser valley. (*Brooks.*) Have a specimen shot at Calgary, Alberta in the spring of 1893. (*Dippie.*)

One fine specimen was shot at Portage la Prairie, Manitoba, April 28th, 1897. (*Geo. Atkinson.*)

Breeding Notes.—These birds seek a nesting ground along the course of the lower Anderson river and the neighbouring region along the Arctic coast. (*Nelson.*) The Eskimos assured us that large numbers of "White Waveys" annually breed on the shores and islands of Esquimaux lake and Liverpool bay, but strange to say we never observed any on the Barren Grounds proper or on the shores of Franklin bay. The Eskimos brought in to Fort Anderson about one hundred eggs, which they claimed to have discovered among the marshy flats and sandy islets on the coasts of Esquimaux lake. (*Macfarlane.*) I have everal sets of five to seven eggs that were collected for me on islands in Mackenzie bay, middle of June 1905. The goose scrapes a hole in the sand and lines it with down and feathers. (*Raine.*)

169a. Greater Snow Goose.

Chen hyperborea nivalis (FORST.) RIDGW. 1884.

Described from a specimen collected at Severn river, Hudson bay. Preble cites many records of its having been taken in the vicinity of Hudson bay, and it is probable that the Hudson bay references under *C. hyperborea* should go here.

A few young birds are taken occasionally in Greenland, in Newfoundland and Nova Scotia; accidental in New Brunswick. The same may be said of its occurence in Quebec and Ontario. A very abundant migrant in Manitoba and eastern Saskatchewan in the spring. In the autumn it migrates farther west and goes south chiefly through Alberta and western Saskatchewan.

A small flock of snow geese was seen at Elmsdale, Muskoka, Ont., in the spring of 1898; and about a year later Mr. Handy saw a flock of about seven pass north over Elmsdale. (*J. H. Fleming.*) Rather rare migrant at Aweme, Man. First seen, April 26, 1902; last, October 12, 1906. (*Criddle.*)

BREEDING NOTES.—The remarks made by me under *Chen hyperborea* belong in part to this species, as at the time the eggs were collected the forms were not separated. (*Macfarlane.*) Breeding in immense numbers in the Barren Grounds Along the Arctic coast. (*Richardson.*) Breeding on the Twin islands, James bay, in 1898. (*A. P. Low.*) I have a set of five eggs taken at Franklin bay, June 9th, 1899. The nest consisted of a depression in the sand lined with down from the mother's breast. (*Raine.*)

169.1. Blue Goose.

Chen cærulescens (LINN.) GUNDL. 1865-66.

Interior of North America, breeding on eastern shores of Hudson bay and migrating south in winter. Occasional on Atlantic coast. (*A. O. U. List.*) Said to be found principally about the southern part of Hudson bay, and according to Indian information breeds in northern Labrador. Recorded from several places on Hudson bay. (*Preble.*) In a flock of twenty-two geese seen at Fullerton, Hudson bay, the first two in the flock seemed to be blue geese. (*A. P. Low.*)

Two females and a male of this species were shot 11th October, 1886, within a few miles of Ottawa, Ont. by Mr. G. R. White. The bills and feet were black instead of being lake-red as in Dr. Coues description, but the birds correspond with it in every other particular. (*Ottawa Naturalist*, Vol. V.) A typical specimen was shot by Mr. A. Ralph on the River Thames, 16th November, 1888. As one foot was missing and the tissues completely healed over, the bird was probably an adult and certainly agrees in every particular with the description given in Ridgway's Manual. The bird has been preserved and is in London, Ont. (*R. Elliott.*) An adult male taken on the lake shore seventeen miles west of Toronto, Ont., is in my collection; another, probably taken at the same place, is in the collection at Trinity University. One specimen was taken at Gravenhurst, Ont., about 1886. (*J. H. Fleming.*) A transient visitor in Manitoba. (*E. T. Seton.*)

170. Ross Snowy Goose.

Chen rossii (CASSIN) RIDGW. 1880.

According to Cassin this is the "Horned Wavey," described by Hearne, in 1795. After the description, Hearne says:—

"This species is very scarce at Churchill river, and I believe is never found at any of the southern settlements, but about two or three hundred miles to the northwest of Churchill I have seen them in as large flocks as the common wavey or snow goose."

Nothing more was heard of this species until Mr. Robert Kennicott and Mr. Bernard R. Ross, of the Hudson Bay Company, sent specimens taken on Great Slave lake to the Smithsonian Institution, and Mr. Cassin recognized it as a new species and named it after Mr. Ross.

On September 20th, 1902, a specimen of this bird was taken near Portage la Prairie, Man. by a young lad, F. Marwood, and later the mutilated skin fell into my hands. I subsequently heard that in 1901 two other specimens had been taken. (*Geo. Atkinson.*) A regular migrant throughout the Calgary district, Alta. Every fall a limited number are killed by local sportsmen here, who call them the "little wavey." (*Dippie.*)

This goose has been taken at the mouth of the Fraser river, and also on Shuswap lake, and on Kuper island, B.C., but I am inclined to think that its occurrence here is rare. (*Fannin.*)

LXVI. **ANSER** Brisson. 1760.

171. White-fronted Goose.

Anser albifrons (Gmel.) Bechst. 1809.

Casual in Eastern Greenland? (*A. O. U. List.*)

171*a*. American White-fronted Goose. Laughing Goose.

Anser albifrons gambeli (Hartl.) Coues. 1872.

Not rare in fresh water between lat. 66° and 68° 30′ N. in west Greenland. (*Arct. Man.*) I received one specimen shot at Hopedale, Labrador. So far as I can learn it is the only record. (*Bigelow.*) Figured from a specimen procured from Hudson bay. Barnston says that this species is seldom seen in the southern part of Hudson bay, but is less rare at York Factory and is frequent at Fort Churchill. (*Preble.*) Very rare around Newfoundland. (*Reeks.*) This species has been noted at Montreal, and one was shot at Lac Jacques Cartier, north of Quebec, in the autumn of 1870. (Dionne.) A friend and myself came across three individuals of this species on the Isle de la Paix, Lake St. Louis, near Montreal, but failed to secure specimens. (*Wintle.*) Only a casual visitor in Ontario.

From the middle of April, or a week later, to the middle of May this species is quite common in western Manitoba and eastern Saskatchewan. It is then passing to its breeding places which Richardson says are in the wooded districts, skirting the Mackenzie river to the north of the 67th parallel, and the islands in the Arctic sea. Macfarlane found it breeding on Franklin bay, Murdoch at Point Barrow, Dall all along the Yukon, and Turner in its delta, Nelson along the Arctic coast, and Fannin says it breeds on the mainland of British Columbia, and that young fledglings have been taken on Cowichan lake, Vancouver island. The breeding range of this bird is therefore the whole northwestern part of the continent and its peculiar spring migration accounted for.

Breeding Notes.—A clutch of four eggs in my collection was taken on an island in Mackenzie bay, west of the mouth of Mackenzie river, June 5th, 1895. The nest consisted of a hollow in the sand lined with down. (*Raine.*) When the white-fronted goose first arrives in the north, the lakes are but just beginning to open and the

ground is still largely covered with snow. The last year's heath-berries afford them sustenance, in common with most of the other wild fowl, at this season. The mating season is quickly ended, however, and on May 27th, 1879, I found their eggs at the Yukon mouth. From this date on, until the middle of June, fresh eggs may be found, but very soon after the latter date downy young begin to appear. These geese choose for a nesting place the grassy border of a small lakelet, a knoll grown over with moss and grass, or even a flat sparingly covered with grass. Along the Yukon, Dall found them breeding gregariously, depositing their eggs in a hollow scooped out of the sand. At the Yukon mouth and St. Michael they were found breeding in scattered pairs over the flat country. Every one of the nests examined by me, in these places, had a slight lining of grass or moss, gathered by the parent, and upon this the first egg was laid; as the complement is approached, the female always plucks down and feathers from her breast until, when incubation commences, the eggs rest in a soft warm bed. The eggs vary considerably in size and shape. Some are decidedly elongated, others are decidedly oval. In colour they are dull-white, but ordinarily present a dirty brown appearance from being stained in the nest. (*Nelson.*)

This species arrives at Point Barrow, Alaska, about the middle of May, and for a couple of weeks is generally found in small parties along the lagoons and the small pools which have opened along the crown of the beach. As the snow cleared off—early in June—they scattered in pairs over the tundra, occasionally feeding together in small parties of half a dozen or more. The eggs are always laid in the black muddy tundra, often on top of a small knoll. The nest is lined with tundra moss and down. The number of eggs appears to be subject to considerable variation, as we found sets of four, six and seven, all well advanced in incubation. The last egg is laid generally in the middle of the nest, and may be recognized by its white shell unless incubation is far advanced, the egg being soiled by the birds coming on and off the nest. (*Murdoch.*)

A considerable number of the nests of this "Gray Wavey" were discovered in the vicinity of fresh-water lakes in timber tracts as well as along the lower Anderson river to the sea. Some were taken on the Arctic coast, and several, also, on islands and islets in Franklin bay. In all, about one hundred nests were secured. The nest,

which was always a mere shallow cavity in the ground, in every observed and reported instance had more or less of a lining of hay, feathers and down, while the maximum number of eggs in no case exceeded seven. (*Macfarlane.*)

171*b*. Bean Goose.

Anser fabalis (LATH.) SALVAD. 1895.

Accidental in Greenland. (*Winge.*) Under the name *segetum*, Richardson mentions this species as one of the geese which are known to visit the Hudson bay region, but are rarely seen, being accidental visitors. (*Preble.*)

LXVII. BRANTA SCOPOLI. 1769.

172. Canada Goose.

Branta canadensis (LINN.) BANNISTER. 1870.

A common migrant in Nova Scotia and New Brunswick. It breeds in Newfoundland, in Labrador, in northern Quebec, on both sides of Hudson bay, and on the island of Anticosti, where the writer saw flocks of old and young feeding in bogs on the berries of *Empetrum nigrum* in August, 1883. Not known to breed in the east, north of Labrador. Spreadborough found it breeding along both coasts of James bay.

This species is a migrant as far as known in Ontario, but westward it breeds from Manitoba and the prairie region to the Pacific coast. A few pairs breed in almost all the prairie lakes having islands in them and where the waters on the outer fringe of a marsh is over 30 inches deep. It was found breeding, by Spreadborough, at Henry House, Athabasca Pass, 1898. Found breeding in the marshes along the Bow river at Banff in 1891, in the marshes of the Columbia below Golden in 1885, and near Revelstoke, B.C., in 1890. Farther to the north it becomes more abundant and breeds in greater numbers throughout the whole wooded country. It is not common in Alaska but breeds in the interior and throughout British Columbia. Brooks reports that a flock of Canada geese winters every year on Shuswap lake, B.C., and says this is the only goose breeding in the Cariboo district.

This species breeds throughout the entire wooded region of the Mackenzie River basin. Nests were discovered in the vicinity of Fort Anderson, and to the borders of the forest on the east and west sides of the river of that name. None were met with on the "Barrens" nor on the Arctic coast. Several deserted hawks' nests were found occupied by incubating females. (*Macfarlane.*)

Breeding Notes.—Have seen several nests, some on the ground and others upon old musk-rat houses. Nests made of grass lined with down. Breeds early; have seen the young the first week in June, but also found eggs perfectly fresh June 9th, 1894. (*Spreadborough.*) A nest with six eggs, incubated about one week, was found near the Red Deer river, Alberta, May 11th, 1888. Between Athabasca Landing and Fort McMurray, two females with young about a week old were seen June 11th. (*J. M. Macoun.*)

Breeds in Saskatchewan and Alberta, and is one of the earliest breeders. Its eggs are often taken and put under fowls to hatch. I have seen broods of young Canada geese that were hatched and reared by turkeys at Rush lake. When the first clutch is taken the bird lays another, sometimes on the same island. On May 25th, 1893, I found seven eggs in a nest built on an island in a small lake north of Rush lake. A Canada goose had nested on this island for several years. It is a remarkable fact that in Alberta this goose often lays its eggs in the nests of buzzards. Mr. Neuman sent me a set of five eggs he took from a buzzard's nest on April 25th, 1896. The nest was built in a dead cotton-wood tree 45 feet from the ground and the bird was flushed off the nest and shot. I have a photograph of the nest. (*Raine.*)

This species is one of the earliest to arrive in the Northwest. It was first seen in 1894 at Medicine Hat on April 7th, by Spreadborough, and was common by the 16th. It seems to have no fixed place to breed as it has been found nesting on old musk-rat houses in marshes, on masses of dead reeds, in buzzards' nests, on low trees along streams, and in two instances it nested in trees at least forty feet from the ground. In one case the nest was in that of a fish hawk, in the other in an old nest of the bald eagle. Also breeding on rocks along Milk river, Alberta.

172*a*. Hutchin Goose.

Branta canadensis hutchinsii (RICH.) COUES. 1872.

This species, in company with the brant and snow goose, arrived in great numbers on Wales sound, Hudson strait, September 6th, 1885, but was gone in a few days. (*Payne.*) Fort Churchill, Hudson bay. (*Dr. R. Bell.*) Several flocks of geese referred to this species were seen on the Barren Grounds near Hubbard point. (*Preble.*) Numerous in the spring about Fullerton, Hudson bay. (*A. P. Low.*) Rare in spring and fall in southern Ontario. A female taken at Toronto, Ont., October 19th, 1905. (*J. H. Fleming.*)

Common in spring and fall in Manitoba. (*E. T. Seton.*) This species has become fairly plentiful within recent years at Aweme, Man., and to some extent has taken the place of the Canada goose. They come down on to the stubble fields about the end of September and leave as soon as the small lakes freeze over. (*Criddle.*) First seen in small flocks at Deep lake, Indian Head, Sask., April 29th; it never became common and all were gone by May 15th. (*Spreadborough.*) Very common around the shores and on the islands of the Arctic sea, and does not frequent the fresh-water lakes of the interior in summer. (*Richardson.*) This species is very common in Alaska, breeding abundantly in the Yukon delta and northward. Fannin and Brooks report it as an abundant spring and fall migrant, wintering on the coast of British Columbia. The former claims it as a resident, but Brooks says these are non-breeding birds.

BREEDING NOTES.—Over fifty nests of this species were found on the lower Anderson river as well as on the shores and islands of the Arctic sea; almost all were placed on the earth and composed of dry hay, feathers and down. The usual number of eggs was six. (*Macfarlane.*) Found breeding on Southampton island in end of June. Nests in swampy ground, built of moss and grass. (*A. P. Low.*)

Dall says they choose in Alaska,, the hill tops for their breeding places. He secured eggs on June 15th and the unfledged young July 10th. The nesting habits, notes, and general mode of life of the Hutchin goose are identical with those of *B. minima*, so they need not be specially referred to here. (*Nelson.*)

172*b*. White-cheeked Goose.

Branta canadensis occidentalis (Baird) Ridgw. 1885.

During my residence on the coast of Bering sea this bird was not seen and as hundreds of the two other related species were examined both at St. Michael and the Yukon mouth, it appears evident that it is found in Alaska as a straggler or not at all. Dall records specimens taken at Sitka. (*Nelson.*) Much rarer than the Canada goose in the lower Fraser valley. (*Brooks.*) Pacific coast region, from Sitka south, in winter, to California. (*A. O. U. List.*)

172*c*. Cackling Goose.

Branta canadensis minima. Ridgw. 1885.

Nelson and Turner report this as being the most generally distributed goose in Alaska. Brooks and Fannin speak of it as a winter resident on the coast of British Columbia.

Breeding Notes.—The upper Yukon district, the Yukon delta, and south to the Bristol bay district abound with these birds in the breeding season. They remain in these places until about the first of October, while in the Aleutian islands they remain until the middle of November. This bird does not winter in any part of Alaska. The eggs vary from seven to thirteen; they are laid in a carelessly arranged nest composed of dead grasses and a few feathers The young remain with the parents until the latter moult by the 20th of August, by which time the young are able to fly. The chief food of the birds is the berries of the *Vaccinium.* (*Turner.*)

The last week of May finds many of these birds depositing their eggs. Upon the grassy borders of ponds, in the midst of a bunch of grass, or on a small knoll these birds find a spot where they make a slight depression and perhaps line it with a scanty layer of grasses, after which the eggs are laid, numbering from five to eight. The eggs, like the birds, average smaller than those of other geese. As the eggs are deposited the female gradually lines the nest with feathers plucked from her breast until they rest in a bed of down. When first laid the eggs are white but by the time incubation begins all are soiled and dingy. The female usually crouches low on her nest until an intruder comes within one hundred yards or so, when she skulks off through the grass or flies silently away, close to the

ground, and only raises a note of alarm when well away from the nest. The young are hatched from the middle of June until the middle of July. (*Nelson.*)

173. Brant.

Branta bernicla (LINN.) SCOPOLI. 1769.

Said not to breed in Greenland lower than lat. 70°, but does so in great numbers on the Polar sea. (*Arct. Man.*) One of the first birds of passage to arrive on Ellsemere island. Their nests were found on islets in the sea or rivers and on the great plains. (*E. Bay.*) This species breeds in numbers on the coasts and islands of Hudson bay and the Arctic sea, and is rarely seen in the interior. (*Richardson.*)

This species is a very abundant migrant on the whole Atlantic coast (north of Hudson strait) filling at times the heads of all the bays and feeding on seaweed, chiefly of the genus *Ulva*. It is quite frequent in the St. Lawrence and is known to ascend the Ottawa to thirty miles below the city. It is casual in Lake Ontario and said to be a rare migrant in western Ontario. Occasionally seen in Manitoba but not to the west of that province.

On the 13th December, 1903 I noticed a bunch of six brant near Comox, Vancouver island, that kept separate from the large numbers of black brant in the harbour; after a hard bit of work I managed to kill one of them, which proved to be an adult female of the Atlantic species. The others were undoubtedly an old male and three young of the same species as they all looked very light coloured. The specimen secured is in every way typical *bernicla*, with interrupted collar, and sharply defined black breast, against the pale grayish lower surface. It was very fat. I have since found that the eastern brant is a fairly common migrant on the Pacific coast. Since shooting the first specimen, I have killed seven others, and have seen a number of small bands that, as a rule, keep separate from the black brant. I should say about eight per cent of the brant in Comox bay are the eastern species. Only once have I killed both species out of the same flock. There seems to be no tendency to intergradation, unless the uniting of the neck patches in one *bernicla* might be so considered. This was an adult male, in all other respects typical *bernicla*, and the collar was barely united by the slightest white tipping. (*Brooks.*)

173*a*. White-bellied Brant.

Branta bernicla glaucogastra (BREHM.)

Extreme northern part of North America. (*A. O. U. List, Ninth Supplement.*) Dr. Coues. (*The Auk*, Vol. XIV, p. 207) gives what appear to be satisfactory reasons for considering this a good subspecies. It breeds "in arctic America, from the west coast of Greenland as far as the Parry islands and north of lat. 73° as far as land is known to extend."

174. Black Brant.

Branta nigricans (LAWR.) BANNISTER. 1870.

About the middle of May this goose makes its appearance about the mouth of the Yukon, and after a week or ten days passes northward to breed. Its breeding ground lies considerably to the north, for during the cruise of the *Corwin*, in the summer of 1881, we first met it in the vicinity of Point Barrow, where the Eskimos brought many of them on board. (*Nelson.*) About the middle of May a great stream of these birds pours northward between St. Michael island and Stewart island. Few are seen in the fall as they then pass through the interior going south. (*Turner.*) This bird appears at the end of the main spring migration of the water-fowl, but not in considerable numbers. A few remain to breed and are seen flying about the tundra during June. After the middle of August they begin to fly across the isthmus of Pergmiak coming west along the shore of Elson bay, crossing to the ocean and turning southward along the coast. (*Murdoch*). An abundant winter resident along the coasts of Vancouver island and British Columbia. (*Fannin.*) Abundant at Douglas, B.C. Saw about 300 April 20th, 1906, on the flat when the tide was out. All had disappeared by May 1st. (*Spreadborough.*)

BREEDING NOTES.—The nest of this bird is placed in rather marshy ground and is a simple depression, lined with down with which the eggs are completely covered when the bird leaves the nest. They sometimes begin to sit on four eggs and sometimes lay as many as six. (*Murdoch.*)

175. Barnacle Goose.

Branta leucopsis (BECHST.) BANNISTER. 1870.

A regular autumnal visitor at Julianshaab, and may perhaps breed in Greenland; recorded also from the east coast. (*Arct. Man.*) Said by Richardson to be rare and accidental in Hudson bay. A specimen in the U. S. National Museum collection was obtained near Rupert House, James bay by Bernard R. Ross. (*Preble.*)

LXVIII. PHILACTE BANNISTER. 1870.

176. Emperor Goose.

Philacte canagica (SEVAST.) BANNISTER. 1870.

One specimen killed at Chemainus, Vancouver island, December, 1894. (*Fannin.*) Among the various species of birds, more or less peculiar to Alaska, this goose is perhaps the most noteworthy. The limited area covered by its migrations, its narrow range, reaching only across the area bounded by the Aleutian islands to the south, and the vicinity of Bering strait on the north, and the little known of its life-history, caused me to give it much attention at St. Michael. (*Nelson.*) The habitat of this goose is strictly littoral-maritime, frequenting only the reefs, rocks and shoals of the salt water and brackish lagoons of the mainland coast. It is never found in fresh-water localities excepting those contiguous to the sea, such as the lower Yukon delta, mouth of the Kuskoquim river, and the bars lying off the mouth of the Nuskagak river. (*Turner.*) Occurs regularly on the Pribilof islands in the summer, but does not breed. (*Townsend.*)

BREEDING NOTES.—On May 22nd, my Eskimo hunter brought in the first one, a magnificent male in fine plumage. From that time on they became more common daily until the first of June, when they arrived in full force. Soon after their arrival they began to pair, and were seen flying in couples, keeping close to the ground, rarely flying twenty or thirty yards high, and often barely keeping clear of the surface. Early in June they began depositing their eggs on the flat, marshy islands bordering the sea. They nested most abundantly on the salt-marshes adjacent to their feeding-grounds

and their eggs were often placed among fragments of drift-wood below the mark of the highest tides. Stray pairs were found nesting further inland in the marshy meadows also frequented by other species of geese, but on the salt-flats, near tide-water, the emperor goose held undisputed possession. The majority of the nests found contained from three to five eggs, the full complement ranging from five to eight. As the complement of eggs approached completion the parent made a soft bed of fine grass, leaves, and feathers plucked from her own breast. As a rule, when driven from her eggs, the female flew straight away and alighted at some distance, sometimes half a mile from the nest, showing very little concern. (*Nelson.*)

LXIX. DENDROCYGNA Swainson. 1837.

178. Fulvous Tree-duck.

Dendrocygna fulva (Gmel.) Burmeister, 1856.

In the *Canadian Naturalist and Geologist*, Vol. VI, 1861, p. 334, there is what must stand as a good record of the fulvous tree-duck in British Columbia. In an article entitled "Recollections of the Swans and Geese of Hudson bay" Mr. George Barnston says:

"Two small species of southwest habitat, the *Dendrocygna autumnalis* and *D. fulva* never come north, as far as I know. I have never seen the first, but have shot one out of a pair of the latter on the banks of the Columbia above Okanagan. This I daresay is usually its limit to the north, and I believe it has never been seen to the eastward of the great stony ridge. Neither of these elegant little geese ever visit Hudson bay." (*J. H. Fleming.*)

In September, 1905, Mr. J. S. Rollins saw eleven fulvous tree-ducks on the flats near New Alberni, Vancouver island and shot five of them. One specimen is in the provincial museum at Victoria (*Spreadborough.*)

LXX. OLOR Wagler. 1832.

179. Whooping Swan.

Olor cygnus (Linn.) Bonaparte. 1856.

Occasional in southern Greenland. (*A.O.U. List.*)

180. Whistling Swan.

Olor columbianus (Ord) Stejn. 1882.

This species is a rare and accidental visitor along the Atlantic coast from Newfoundland southward. It is not uncommon in the Gulf and River St. Lawrence and is a regular visitor on Lake Erie and the Great Lakes generally. Migrants have been seen or taken in all parts of Manitoba and westward over the prairie. Apparently not breeding south of the Arctic circle.

This species breeds on the coast of the Arctic sea within the Arctic circle and is seen in the interior only as a migrant. (*Richardson.*) Whistling swans visit the western shores of Hudson bay in great numbers in the spring and fall, and their assembled thousands are said to present a beautiful and imposing spectacle during their semi-annual visits. The broad expanse of Churchill river near its mouth is a favorite place of resort. (*Preble.*) Both Nelson and Turner speak of this bird being a common species in Alaska. Mr. Turner says it migrates about the middle of October and at this time the migration is always to the northward from St. Michael and directed towards the head of Norton sound. From there it evidently crosses to the Yukon and passes up it to the Rocky mountains. A common migrant in British Columbia, and according to Fannin very abundant during the summer in some portions of the mainland interior. The young have been taken on Vancouver island. Brooks says that a swan, (apparently this species) winters in suitable localities in the Okanagan district, B.C.

Breeding Notes.—Common on Southampton island, Hudson bay and on the flat land north of Repulse bay. They breed in low lands where there are lakes. Their nests, constructed of seaweed, grass and moss are very conspicuous. They are very bulky affairs, about three feet in diameter at the base tapering to 18 inches at the top and 18 inches high. (*A. P. Low.*) This species builds on the ground and the nest usually contains five eggs; several were also found on the coast and islands of Liverpool and Franklin bays in the Arctic ocean. (*Macfarlane.*) The birds arrive on the coast singly or in small parties, and directly after scatter to their summer haunts. At Nulato, Dall found them laying eggs by May 21st, but on the sea-coast, May 30th is the earliest date I have of their eggs being taken. Dall states that they lay two eggs, but this must

refer to a single nest, for the ordinary number is from three to six. The nest is usually upon a small island in some secluded lakelet, or on a rounded bank close to the border of a pond. The eggs are deposited in a depression made in a heap of rubbish gathered by the birds from the immediate vicinity of the nest, and is composed of grass, moss, and dead leaves, forming a bulky affair in many cases. On June 14th, 1880, a swan was seen flying from the side of a small pond on the marsh near St. Michael, and a close search finally revealed the nest. The eggs were completely hidden in loose moss, which covered the ground about the spot, and in which the bird had made a depression by plucking the moss and arranging it for that purpose. The site was so artfully chosen and prepared that I passed the spot in my search, and one of my native hunters coming close behind, called me back, and thrusting his stick into the moss exposed the eggs. (*Nelson.*) I have a clutch of four eggs taken on the mainland opposite Herschell island on June 15th, 1905 by Rev. C. E. Whittaker. The nest consisted of a pile of weeds with a cavity at the top lined with feathers and down. (*Raine.*)

181. Trumpeter Swan.

Olor buccinator (RICH.) WAGLER. 1832.

Stragglers are occasionally seen on Lake St. Clair and on the north side of Lake Erie and doubtless on Lake Ontario, but by many observers this species is referred to the more common whistling swan.

Occasionally seen passing over Manitoba, flying high in the spring. More plentiful in the autumn. Only a few specimens noted by Spreadborough at Indian Head, Sask., in the middle of April, 1892. Seen passing over Revelstoke, B.C., from 18th to 20th April, 1890. This is the most common swan in the interior of the Northwest Territories.

It breeds as far south as lat. 61°, but principally within the Arctic circle and in its migrations generally precedes the geese by a few days. (*Richardson.*) Richardson describes a specimen killed on Hudson bay. Barnston speaks of the breeding of swans near East Main fort, on James bay, and of eggs being brought to him from a nest on the banks of a lake near Norway House. His remarks probably refer to this species, as it has a more southern breeding

range, especially in the interior, than *O. columbianus*. (*Preble.*) North to the Arctic circle, on the Mackenzie river, breeds along the river. (*Ross.*) Very rare in Alaska, but not uncommon in northern British Columbia, according to Fannin and Brooks.

Breeding Notes.—Several nests of this species were met with in the Barren Grounds, on islands in Franklin bay, and on the beach one was taken which contained six eggs. It was composed of a quantity of hay, down and feathers intermixed, and this was the general mode of structure of the nests of both swans. (*Macfarlane.*) A pair remained at Sumas lake, B.C., throughout the summer of 1891 and swans (apparently this species) winter on Lake Okanagan, B.C.; swans of this species breed in northern Chilcoten, B.C. (*Brooks.*)It occasionally breeds in Saskatchewan, although its natural breeding-grounds are much further north. A pair was found breeding at Buffalo lake, Alberta, on April 7th, 1891. The nest contained five eggs. Mr. Spaulding described the nest as being a large structure, three feet in diameter, composed of sods, grass and rushes and lined with feathers and down. Mr. Sanderson who has lived all his life in Saskatchewan informs me that wild swans used to breed on some of the lakes before the Canadian Pacific Railway was built. The last nest he found was during the spring of 1885, during the Northwest rebellion. It was at Sounding lake, Sask., and contained four fresh eggs. (*Raine.*)

Order HERODIONES. Herons, Storks, Ibises, &c.

Family XV. **IBIDIDÆ**. Ibises.

LXXI. **PLEGADIS** Kaup. 1829.

186. **Glossy Ibis.**

Plegadis autumnalis (Hasselq.) Stejn. 1885.

A flock ran the gauntlet and came along the coast as far north as Country harbour, Nova Scotia. (*Downs.*)

Mr. John Bates shot a pair at the end of May, 1857, on a creek near Hamilton water-works. These are the only birds of this species ever seen in Ontario. (*McIlwraith.*)

187. White-faced Glossy Ibis.

Plegadis guarauna (LINN.) RIDGW. 1878.

Found as a rare straggler in British Columbia. Only two specimens known to have been taken in that province; one on Salt Spring island in the Gulf of Georgia, and the other at the mouth of the Fraser river. (*Fannin.*)

FAMILY XVI. ARDEIDÆ. HERONS, BITTERNS, &c.

LXXII. BOTAURUS HERMANN. 1783.

190. American Bittern.

Botaurus lentiginosus (MONTAG.) STEPH. 1819.

This species is only a straggler in Greenland but is a summer migrant in Newfoundland and Labrador. It breeds in Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario and northward to Hudson bay, in all suitable localities.

Westward it becomes more abundant and is found commonly from Manitoba to the Pacific, never being seen in flocks but turning up in all marshes and in weedy brooks. Spreadborough found it in many of the marshes between Lesser Slave lake and Peace River Landing, Atha. Richardson says it is common in the interior up to the fifty-eighth parallel, and Bernard Ross says it descends the Mackenzie to the Arctic sea. Although it is abundant and breeds in British Columbia we have no record of its occurrence in Alaska.

BREEDING NOTES.—A pair breeds every year in Ashbridge bay, Toronto, Ont. This species lays five eggs, occasionally six. (*Raine.*) Breeds in the marsh on the north side of McKay lake, Ottawa and in the marsh at the Experimental Farm. (*W. T. Macoun.*) Two nests were found by me near Ottawa hidden in weeds near marshes. The nests were flat, made of reeds and measured eleven inches in diameter. (*Garneau.*)

I have found the nest of this species four times in the county of Leeds, Ont. The bird lays its eggs very regularly about the 24th of May apparently being little influenced by the season, just as in the case of the loon. It also has a preference for the same locality year after year, even though the eggs are taken. The first three

nests I found were in small ponds in a meadow nearly surrounded by woods, and were built three successive years, in one or other of the two ponds among the flags of last year's growth, in one case floating in two feet of water. The complement of five eggs, once of six, was laid by the 26th of May, and in one case incubation had commenced some days previously. The fourth nest I found was in an open, but wet meadow, and the nest was formed of grass in a springy place, very unlike the others. On the 3rd of June the five eggs were much incubated. (*Rev. C. J. Young.*) This species is rather common in the large marshes in western Ontario. It makes a bulky nest in a dry portion of the marsh and lays four or five eggs, generally four. It nests sparingly throughout all south-western Ontario. Nests have been frequently reported near London. (*W. Saunders.*)

Nests in the reeds and grass in nearly all marshes. On June 29th, 1892, found a nest at Indian Head, Sask., containing five eggs. The nest was built on a mass of last year's rushes about eighteen inches above the water and consisted of the same materials. The bird feeds upon mice, snakes, frogs and almost anything that has life and that it is able to swallow. (*Spreadborough.*)

Breeding in large numbers at Crane lake, Sask.; in the marshes. The nest is generally on old dead grass in one or two feet of water, but one containing two eggs partly incubated was found on dry ground on June 9th. On the 20th I found many nests but in nearly all, the eggs were so much incubated that they were unfit to take. Most of the nests contained four or five eggs. One nest was taken which had five eggs in it, one of which was that of the lesser scaup. (*Macoun.*)

LXXIII. **ARDETTA** GRAY. 1842.

191. Least Bittern.

Ardetta exilis (GMEL.) GUNDL. 1856.

A rare summer resident along the Bay of Fundy between Black river and Mispec, New Brunswick. (*Chamberlain.*) Accidental at Quebec. (*Dionne.*) Rare in the district of Montreal but perhaps more plentiful than we think, as it is retiring in its habits. (*Wintle.*) A summer resident near Ottawa. Known to build. (*Ottawa*

Naturalist, Vol V.) Common summer resident at Toronto, Ont.; breeds. (*J. H. Fleming.*) A regular summer resident in southern Ontario. (*McIlwraith.*) Accidental in Manitoba. (*E. T. Seton.*) One specimen taken at Crane lake, Sask., in June, 1894, by Mr. W. Spreadborough.

Breeding Notes.—At Hamilton bay, Ontario, it is a regular summer resident, raising its young in the most retired parts of the marsh. The nest is large for the size of the bird, a platform being made for its support by bending down the flags till they cross each other a foot or more above the water-level. The whole affair is very loose and readily falls asunder at the close of the season.(*McIlwraith.*) The little bittern breeds in Ashbridge bay, Toronto, and lays five eggs. (*Raine.*) A nest of the least bittern with eggs in it was found by Dr. F. A. Saunders in the summer of 1902 in the marsh at the Experimental Farm, Ottawa, Ont. (*W. T. Macoun.*) A bird that is met with sparingly in suitable places near the St. Lawrence; for example, at Escott pond, Leeds co., Ont.; the neighbourhood of Gananoque lake, and around Kingston, Ont. It is not a regular visitant; some years scarcely one is noticed, for this bird makes its presence evident by its peculiar call. The nest is hard to find. I found one at the first-mentioned place, the 9th June, 1892. It was built amongst a very thick growth of last year's flags, about eighteen inches above the water, supported by the matted vegetation and formed of the dead flag leaves, but quite dry. It contained at that date six bluish-white eggs, quite fresh. (*Rev. C. J. Young.*) Not uncommon in all the large marshes in south-western Ontario and an abundant breeder in some of them. (*W. Saunders.*)

191.1. Cory Least Bittern.

Ardetta neoxena Cory. 1886.

Sixteen of this interesting bittern have been taken at Toronto (about two-thirds of the known specimens), between May 18th, 1890 and Sept. 8th, 1899. These dates are the earliest and latest. The young have been taken from August 3rd to 17th. All the birds have been taken in a comparatively small extent of marsh in Ashbridge bay. For a list of Toronto records see *The Auk*, Vol. XIII, p. 11 and Vol. XIX, p. 77. The nest is described as simply a mass of last year's reeds. (*J. H. Fleming.*)

LXXIV. **ARDEA** LINN. 1758

194. Great Blue Heron.

Ardea herodias LINN. 1758.

Breeds in colonies in Nova Scotia, New Brunswick, Prince Edward Island, Quebec, Ontario, Manitoba, Saskatchewan and British Columbia.

Richardson says that it is only accidental in the Northwest Territories and it seems to be rare in Alaska but likely breeds along the Yukon or its branches. Grinnell records it as frequent along the secluded inland shores at Sitka, Alaska.

BREEDING NOTES.—Downs reports a large heronry on Mount Uniake, Nova Scotia, in the tops of birch trees. A few breed near Rustico in Prince Edward Island. There is a large heronry on the Quebec side of the Ottawa twenty-five miles below the city of Ottawa. Mr. Seton in his *Birds of Manitoba*, mentions the discovery of a heronry on Riding mountain in Manitoba, at the head of Bird Tail creek, in the summer of 1880, and the writer, in June 1894, saw a a small one on Skull creek, Sask., a small brook that descends from the Cypress hills.

The following description of the heronry on the Ottawa is taken from McIlwraith's *Birds of Ontario*, page 110:

"The heronry is located in the centre of a thick swamp which, on the occasion of our first visit, was so deeply submerged as to bar all ingress. On the 19th July, however, the water was but knee-deep. After proceeding about half a mile into the swamp, our attention was arrested by a peculiar sound which we at first thought proceeded from some distant saw-mill or steamer on the river. As we advanced, however, the sound resolved itself into the most extraordinary noises, some of which resembled the yelping of dogs or foxes. On penetrating still deeper into the swamp, we discovered that the noises proceeded from an immense number of herons, some perched on branches of trees, some sitting on nests, and others flying overhead. The uproar was almost deafening and the odour arising from the filth with which the trees and ground were covered was extremely disagreeable. We tramped all through the heronry and calculated that it must extend about half a mile

in each direction. The nests were all of the same pattern, great cumbersome piles of sticks, about a foot thick, with but a very shallow cavity and no lining."

The heronry on Riding mountain, Man., is thus described by Mr. E. Thompson Seton:—

"We had struck a heronry; hundreds of these birds were passing to and fro, and, on going forward a hundred yards or so, we found the tops of the poplars covered with their nests, the young birds, full grown but not able to fly, perched on the highest trees. The nests were made of the small dead branches of the poplar and were placed as near the tops of the trees as possible. These mountains are full of small ponds and deep marshes which swarm with lizards and small fish, on which the herons feed. On getting to an open space near the heronry we could see the old birds coming and going in every direction. Those coming home were stuffed to the bill with food for their young, making them present a very ungainly figure, as they lazily flapped their way towards the woods."

In May, 1898, a small heronry was found in a birch grove near one of the Gaspereaux lakes in Nova Scotia. The nests, to the number of five within the space of one acre, were inaccessible owing to the great size and nature of the trees selected for the nests. (*H. F. Tufts.*)

A few years ago this species bred in the township of Escott, Ont., and some of the old nests were still left in 1895. In the next township—Yonge—a few birds still breed near MacIntosh Mills, and their nests may be noticed on some tall pine trees. A large heronry existed in a bush near the River Tay, Lanark county, in 1885. The nests were built mostly on ash trees, three or four nests often in one tree. It still breeds in the township of Elizabethtown, where there is a large heronry near Graham lake. Two sets of eggs, five of each, were taken from this heronry on May 6th, 1899. (*Rev. C. J. Young.*) In *The Ottawa Naturalist*, Vol. XVIII, p. 119, Rev. G. Eifrig gives a very full description of a heronry near Eganville, Renfrew county, Ont. There were between 50 and 100 nests all in swamp elms, 30 to 50 feet from the ground.

In Muskoka, Ont., they build in tall pine trees. One tree on an island in a lake about twelve miles from Bracebridge had between

fifteen and twenty nests in it. They used to breed in Muskoka in great numbers, but have been driven farther back and are rather scarce now. I have known one to sit upon a heap of floating mud in a small lake, for thirty-six hours, catching fish. They feed upon frogs and fish. At Crane lake, Sask., I counted thirteen nests in a clump of *Negundo aceroides* on June 16th, 1894. (*Spreadborough.*) Heronries are now generally deserted in the vicinity of London, Ont., and the birds are much less common than formerly. Single nests are now more and more the rule. Eggs, four and five, sometimes spotted with deep black. These spots consist of pitch which the birds bring on their feet from the fish nets in Lake Erie, They may be removed by the use of ether or other solvents of tar. (*W. Saunders.*)

194*a*. Northwest Coast Heron.

Ardea herodias fannini CHAPMAN. 1901.

Queen Charlotte and Vancouver islands and coast region of British Columbia. It is probable that all the great blue herons on the west coast are this variety.

Common on the tide flats at Douglas, B.C. from April 15th when I reached there until I left in May. Two seen at Chilliwack lake, July 10th, 1906. Breeds also on Vancouver island. (*Spreadborough.*). Often seen feeding at low tide on the beaches and mud flats of Skidegate and Cumshewa inlets, Queen Charlotte islands. (*Osgood.*)

195. European Blue Heron.

Ardea cinerea LINN. 1758.

Said by Crantz to have been seen in south Greenland, August 27th, 1765; a young bird found dead near Nenortalik in 1856 was sent to Copenhagen. (*Arct. Man.*) Several specimens taken since 1856. (*Winge.*)

LXXV. HERODIAS BOIE. 1822.

196. American Egret.

Herodias egretta (GMEL.) CABANIS. 1856.

Casual in summer in Nova Scotia. (*Downs.*) One shot at Grand Manan, New Brunswick, in 1878. (*C. J. Maynard.*) This species

was seen by Mr. Comeau at Godbout on the St. Lawrence in 1882. (*Dionne.*) A rare visitor in the Montreal district. A pair was observed at Beauharnois in the fall of 1889 and one shot; another example was taken in the summer of 1891, at Isle aux Noix, forty miles from Montreal. There is a record in *The Auk*, Vol. II., page 110, of a pair seen at Rockliffe, on the Ottawa river, in the spring of 1883. The male was obtained and is now in the museum at Ottawa. These were adults, but the specimen in my collection, which was obtained at Rondeau, near the west end of Lake Erie, and others which I have heard of along our southern border, were all young birds. (*McIlwraith.*) The only definite record for the Toronto region is a specimen in my collection taken at Port Union, May 24th, 1895. Dr. Wm. Brodie says a pair bred regularly many years ago at Port Union and several were shot. (*J. H. Fleming.*) An adult specimen of this species was shot on Duck bay, Lake Winnipegosis, in 1888, by Mr. David Armit. This I believe is the northernmost record for the species. (*E. T. Seton* in *The Auk*, Vol. x. p. 40.)

LXXVI. **EGRETTA** FORSTER. 1817.

197. **Snowy Heron.**

Egretta candidissima (GMEL.) GOSSE. 1847.

Casual visitor in Nova Scotia; one specimen shot in a marsh near Halifax, another at Musquodoboit. (*Downs.*) Saw one shot at Combermere, Renfrew county, Ont., in August, 1892. (*Rev. C. J. Young.*) I have recently mounted a fine adult male shot May 11th, 1901, near Pincher creek, Alta. (*G. F. Dippie.*) Accidental in British Columbia. Two specimens taken at Burrard inlet, B.C., May, 1879, (*Fannin.*)

LXXVII. **FLORIDA** BAIRD. 1858.

200. **Little Blue Heron.**

Florida cœrulea (LINN.) BAIRD. 1858.

Accidental and very rare in Nova Scotia. (*Downs.*) On May 23rd, 1900, a specimen of this species was brought to Mr. Ernest Doane at L'Anse au Loup, Labrador by a man who had shot it a day or two before. Mr. Doane skinned the bird and sent it to me.

(*Outram Bangs.*) There was brought to me at Quebec a specimen of this bird, killed on the St. Lawrence by an amateur in October, 1881. (*Dionne.*) A pair of little blue herons was taken by J. W. Anderson at Aylmer, Ont., August 15th, 1901. Two more were shot within a few miles of Toronto some time ago. (*J. H. Ames.*)

LXXVIII. **BUTORIDES** BLYTH. 1849.

201. Green Heron.

Butorides virescens (LINN.) BONAP. 1855.

Occasional in Nova Scotia. (*Downs.*) A summer resident, but rare, at St. John, New Brunswick; commoner in the northern counties. (*Chamberlain.*) A scarce summer resident at Montreal. May breed, as young birds were seen at Caughnawaga, on September 1, 1887. (*Wintle.*) This handsome little heron finds its northern limit along the southern border of Ontario. According to Dr. Macallum, it breeds regularly on the banks of the Grand river, near Dunnville, and has also been observed, occasionally, near Hamilton and at St. Clair flats. (*McIlwraith.*) Often shot in Ashbridge bay, Toronto. (*Raine.*) Regular migrant at Toronto. Not common. (*J. H. Fleming.*)

The writer thought he saw a number of specimens of this species on the Assiniboine river, near the mouth of Shell river, Manitoba, on the 26th September, 1881, but never having seen any since believes now they were the next species. Seton records this species in his *Birds of Manitoba*, on my authority and that of Mr. Hunter, but as neither of us mentions the next species, I believe we mistook our bird and the night heron was the bird we saw.

BREEDING NOTES.—A rare visitant in eastern Ontario. I have met with the bird twice; the second time near MacIntosh Mills, Ont., in May, in a locality where there was a possibility it might be paired and was breeding. The bird was very tame, and alighted on the dead limbs of trees. Their principal place of resort on the St. Lawrence is Charleston lake, where I found a small colony breeding. On May 29th, 1899, I found two nests, one with three eggs, the other close by, with one. On June 14th I saw a nest with five eggs and another one in which the eggs had been destroyed. (*Rev. C. J. Young.*) A rather common but very retiring breeder in south-

western Ontario. I found three nests in one morning in a clump of tamarack of less than an acre and within four miles of London. They appear to be spreading north steadily. (*W. Saunders.*)

LXXIX. NYCTICORAX Stephens. 1819.

202. Black-crowned Night Heron.

Nycticorax nycticorax nævius (Bodd.) Zeledon. 1885.

A rare visitor in Nova Scotia. (*Downs.*) Fall migrant in Nova Scotia; only immature specimens seen. (*H. F. Tufts.*) A summer resident in New Brunswick; reported abundant at Bathurst andRiver Charlo. (*Chamberlain.*) Abundant in September, 1882, at Port Daniel, Bay of Chaleur, Quebec. (*Macoun.*) A single specimen taken at Lake Mistassini on 6th August, 1885. (*J. M. Macoun.*) Not uncommon at Beauport and River St. Lawrence, Que. (*Dionne.*) Shot in the fall at Ashbridge bay, Toronto, Ont. (*Raine.*) Regular migrant at Toronto, Ont.; rather rare in the spring. (*J. H. Fleming.*) Rare migrant; not recorded as breeding in southwestern Ontario. (*W. Saunders.*) One specimen in adult plumage was taken at Guelph, Ont., about twelve years ago. (*A. B. Klugh.*) Common in western Quebec and eastern Ontario, where it is known to breed. The young of this species have been taken at Ottawa in July by Mr. G. R. White.

A regular but not common resident. Individuals seen during the whole summer and breeding here and there in the most retired marshes and ponds around Prince Albert, Sask. (*Coubeaux.*) Not uncommon in Manitoba, breeding in marshes, but not recorded from Alberta.

Breeding Notes.—Nests in great numbers in the reeds around Shoal lake. They fix their nests to the reeds, about eight or nine inches above the water, and deposit in each four or five roundish blue eggs. I think this is the only place in Rupert Land where this species is found. (*D. Gunn*, vide *McIlwraith.*)

203. Yellow-crowned Night Heron.

Nycticorax violaceus (Linn.) Vigors. 1827.

Mr. Fred. H. Kennard in *The Auk*, Vol. XIX., p. 397, records the taking of a specimen of this bird near Hawk Point, Cape Sable island, Shelburne co., N.S. It was received in Boston, April 1st,

1902, from Yarmouth, N.S. Mr. Kennard learned that it had been killed by Mr. Howard Smith, who wrote Mr. Kennard that two other specimens had been captured that spring in Yarmouth co., Nova Scotia.

One taken on Sable island, N.S., April 13th, 1904. (*Jas. Boutelier.*) A young bird was taken near Toronto, Ont., by Mr. John Maughan. It is in the provincial museum at Toronto. (*J. H. Fleming.*)

Order PALUDICOLÆ. Cranes, Rails, &c.

Family XVII. **GRUIDÆ.** Cranes.

LXXX. **GRUS** Pallas. 1766.

204. Whooping Crane.

Grus americana (Linn.), Vieill. 1817.

Thirty years ago this species was found in all the large marshes from the Red river to the Rocky mountains, but with the building of the Canadian Pacific Railway and increased population, it is gradually retiring northward. A few still breed in Saskatchewan, but most pass northward into the Athabasca district and further north. A pair was found, likely breeding, on Twelve-mile lake, Wood mountain, June 6th, 1895. Richardson wrote many years ago that this bird frequented all parts of the Northwest traversed by him, and Macfarlane writes that though he never found any nests he observed flocks both in spring and fall flying over Fort Anderson near the Arctic sea. The only record McIlwraith gives of the occurrence of this species in Ontario is at page 116 of his Birds of Ontario. He says that a single specimen was taken in the township of Camden in Addington co. on the 27th September, 1871, by Mr. Wesley Potter.

Hearne says this bird visits Hudson bay in the spring though not in great numbers. (*Preble.*) A pair was seen by Mr. Handy at Elmsdale, Muskoka, Ont., in 1895. He was attracted by their loud cries and watched them for some time. (*J. H. Fleming.*) Rather uncommon at Aweme, Man. Arrives about April 15th and passes south about the first week in October. (*Criddle.*) A number

observed at Kluskun lake, Grand Prairie, Peace River district in 1903. (*J. M. Macoun.*)

Breeding Notes.—I have a fine set of two eggs that were taken by Mr. Hugh Richardson, June 10th, 1896, south of Prince Albert, Sask. Nest, a pile of marsh hay on the open prairie. On May 20th, 1893 I found two pairs of this bird on the prairie ten miles southwest of Oak lake, Man. The nest of one pair was located. It consisted of a pile of marsh grass and contained one egg. These birds had been nesting in this place for several years. The third week in May seems about the right time to find fresh eggs in Manitoba. (*Raine.*)

205. Little Brown Crane. "Sandhill Crane."

Grus canadensis (Linn.) Temm. 1820.

One obtained near Igloolik, in Greenland, June 20th, 1869. (*Arct. Man.*) Several pairs seen on Southampton island, Hudson bay. Breeds there. (*A. P. Low.*) Noted several times on the Barren Grounds, twenty-five miles south of Cape Eskimo, usually in companies of four or five. Forster recorded it from Severn river, Murray from Trout lake, and King records its having been seen near the mouth of Great Fish river. (*Preble.*) A young female of this species was secured at Alexander, Prince Edward island, Sept. 22nd, 1905. (*W. H. Moore.*) This species passes through the Cariboo district, B.C., as a migrant. (*Brooks.*) Near St. Michael we saw flocks of from two to six individuals each almost daily during the first half of September. (*Bishop.*) I found five on Kaminista lake, St. Paul island, Alaska. Others had been seen by the natives and one was caught in a trap in 1888. (*Palmer.*) Two specimens were taken at Point Barrow, Alaska, June 25th, 1897. (*McIlhenny.*)

Owing possibly to a misapprehension this species has been overlooked in Manitoba and Seton only includes *Grus mexicana* in his catalogue of Manitoba birds. Sir John Richardson on the other hand does *not* include *Grus mexicana* in his *Fauna Boreali Americana*, but says that some individuals are larger and have longer bills. The sandhill crane reached Carlton House April 28th, 1887, and Dr. G. M. Dawson recorded it at Dufferin, Man., between April 25th and 30th, 1874.

In *The Auk* for January, 1893, Mr. Seton speaks of a specimen of this bird being killed on the Qu'Appelle river. On September 16th, 1881, the writer shot a specimen near Fort Pelly which was certainly the little brown crane as it was much smaller than the one taken on the prairie in 1872. More light is needed on the distribution of the two species named sandhill cranes by the people generally. Either this species or the next is scattered over the country from the 49th parallel to the Arctic ocean and is especially abundant in Alaska and British Columbia.

Breeding Notes.—As a rule this species is not seen on the lower Yukon until about May 7th or later, when the ground is half bare and the cranes can search every hillside for last year's heath-berries, which, with an occasional lemming or mouse, constitute their food at this season. The site for the nest is usually on grassy flats, where the drier portions or the slight knolls afford them suitable places. The spot usually has an unobstructed view on all sides, and it is common to see the female's long neck raised suspiciously at the appearance in the distance of anything unusual. The nest is frequently a mere hollow in the ground, and is commonly lined with more or less coarse grass-stems and straws. In one instance a nest was found on a bare flat and was lined with a layer of straws an inch deep, all of which must have been brought some distance; this is unusual, however. The two eggs which this bird always lays, are generally deposited during the last few days of May or early June. (*Nelson.*)

206. **Sandhill Crane.**

Grus mexicana (Müll.) Vieill. 1817.

A pair was taken many years ago at Toronto, Ont. Mr. Taverner reports one taken at Beaumaris, Muskoka, several years ago. (*J. H. Fleming.*) Occasional reports of this species in southwestern Ontario still come in but it may safely be said to be a *very* rare migrant. (*W. Saunders.*) Tolerably common at Aweme, Man., breeding in small bogs and marshes. Arrives about April 1st, and departs in October. (*Criddle.*) Saw thirty-five at Douglas, B.C. flying northward April 28th, 1906; one at Elko, B.C. in 1904, and a few seen all through April, 1903, at Penticton, B.C. (*Spreadborough.*)

Mr. McIlwraith in his *Birds of Ontario* gives two instances of the breeding of this species in southwestern Ontario and mentions the killing of another specimen at Rondeau, Lake Erie, in 1869.

I have carefully read Mr. Seton's account of *Grus mexicana* in his *Birds of Manitoba*, and am of the opinion that some of his "sandhill cranes" were *Grus canadensis*. Indeed in quoting Dr. Coues he says that he (Coues) found this species breeding west of Pembina when in reality Dr. Coues says it was the brown crane he found there. See Coues on *Birds of Dakota and Montana*, page 646. It is possible, however, that Dr. Coues gave the wrong name to his species.

In my earlier explorations I was mislead in this same way by both cranes being called "sandhill cranes." In 1872 a specimen of this species was caught with a lasso by one of our men, who ran him down, when moulting in August of that year. This specimen was much heavier than the 10 lb. specimens of Mr. Seton. Richardson's specimen, killed on Great Slave lake in 1822, was forty-eight inches long, so that it was certainly this species also. Fannin and Brooks say that it is a summer resident in southern British Columbia, but chiefly east of the Coast range, though not so common as the little brown crane which is, however, chiefly a migrant. Brooks found *G. mexicana* breeding in suitable localities in the Cariboo district.

Breeding Notes.—The sandhill crane comes to southern Manitoba about the end of April, circling around high in the blue and uttering its peculiar call. When mating it repairs to some hillock or knoll and executes a sort of war dance by dancing around and flapping its huge wings. It usually breeds on some tussock of decaying vegetation in a marsh, building quite a large nest of moss and rushes. I have never seen more than two eggs in the nest. These are shaped and coloured very much like those of the loon, though perhaps, a little more pointed. The young leave the nest almost immediately after hatching. They are clothed with a thick ferruginous down, and have legs about four inches long. If caught when very young they are easily tamed, readily eating bread or scraps of meat, and are of great service to a gardener. I have seen one about a month old go down a line of onions and take up every cut-worm from their roots, as if an inch and a half of mould were perfectly transparent. After the young are fully grown they gather

into flocks of from twenty to thirty and migrate southwards in the early autumn. (*Cecil Selwyn.*)

FAMILY XVIII. **RALLIDÆ.** RAILS, GALLINULES, COOTS.

LXXXI. **RALLUS** LINNÆUS. 1758.

208. **King Rail.**

Rallus elegans AUD. 1835.

Casual around Montreal in summer. (*Dionne.*)

This large and handsome rail, which until recently was considered to be only a casual visitor to Ontario, is now known to breed plentifully in the marshes all along the River St. Clair. It has also been found at other points in southern Ontario, but the St. Clair flats seem to be its favourite breeding place. Migrant at Toronto, Ont., probably accidental; one was taken in September, 1903, and there are two other local records. (*J. H. Fleming.*)

It arrives in May and leaves in September. (*McIlwraith.*) Observed once at Plover pond, Middlesex county, Ont. (*R. Elliott.*)

Mr. Hine and Mr. Seton have seen this species in Manitoba, where it is evidently a casual.

212. **Virginia Rail.**

Rallus virginianus LINN. 1766.

A common summer migrant in New Brunswick. (*Chamberlain.*) Not uncommon along the St. Lawrence. (*Dionne.*) A casual on the coast of Labrador, Newfoundland and Nova Scotia. Common in western Quebec and eastern Ontario, where it breeds. Generally distributed throughout Ontario. A common summer resident in eastern Manitoba.

Recorded from York Factory, Hudson bay, by Dr. Bell. (*Preble.*) I have flushed this rail in many of the Manitoba marshes but never found a nest. In July, 1906, flushed it at Hirzel, Touchwood hills, Boulder lake and Little Manito lake, Sask., but did not see it further west. (*Geo. Atkinson.*)

Found on both the mainland and Vancouver island; not common; breeds. (*Fannin.*) Tolerably common summer resident in the

lower Fraser valley; winters at Lake Okanagan, B.C., and common and breeding in the Cariboo district. (*Brooks.*)

Breeding Notes.—While on a trip to the marshes in Lake St. Francis near Summerton, Ont., June 6th, 1903, on a low boggy island, less marshy than others and partially covered with alders we found the sora and Virginia rails nesting. These nests were miniature galinule's, though better hidden, and were fastened low down amongst the long marsh grass. (*Lewis M. Terrill.*) Nests six inches in diameter, made of rushes, are to be found around Ottawa among the reeds in marshy places. Two taken 13th May, 1905, and 21st May, 1906, were on the ground. On the 23rd July, 1905, I discovered a floating nest the size of the others among the reeds in a marsh. (*Garneau.*) This species breeds wherever there is a sufficiently large marsh, a small one of an acre being enough to please, and sometimes even less will do. (*W. Saunders.*) A nest was brought to me from a slough near Carberry, Manitoba, July 30th, 1884. It was found in a tussock of coarse grass, and was built of dry stems of the same. The eggs, eight in number, were quite fresh, and differed from the Carolina rail only in being of a lighter colour and with reddish instead of umber spots, these chiefly about the larger end. The nest was of rushes, and built precisely like that of the Carolina bird, but it was situated rather in a damp meadow than a marsh. (*Seton.*) This is the commonest rail in the St. Lawrence valley and breeds annually in the marshes along the St. Lawrence and inland. It frequents larger marshes than the sora, though occasionally they are found breeding in the same localities. I have found several nests; two of these were in wet places, formed by rank grass, &c., and placed simply in tussocks of marsh grass. The third was near Gananoque lake among a cluster of flags and bullrushes, and was formed of last year's stems of the latter, fastened among the rushes and floating in about eighteen inches of water, like a gallinule's. They are late breeders; the first nest I found, containing nine eggs on the 17th June, incubation only commencing; the last one, six eggs, incubation advanced, on the 15th July, 1896. (*Rev. C. J. Young.*) This is a rare bird in Manitoba. On the 12th June, 1893, I found a nest with one egg at Reaburn, Manitoba, and shot the parent. (*Dippie.*)

LXXXII. **PORZANA** Vieillot. 1816.

213. Spotted Crake.

Porzana porzana (Linn.) Boucard. 1876.

One specimen of this species is said to have been shot at Fredericks-haab, Greenland, some years ago. (*Hagerup.*) One obtained at Godthaab, September 28th, 1841; a second taken at Nenortalik was sent to Copenhagen in 1856. (*Arct. Man.*) Taken again in 1878. (*Winge.*)

214. Carolina Rail. Sora.

Porzana carolina (Linn.) Baird. 1845.

Casual in Greenland. One killed at Sukkertop, October 3rd, 1823. (*Arct. Man.*) Several taken in recent years in Greenland. (*Winge.*) A summer migrant in Newfoundland, rare in Nova Scotia, breeding in Prince Edward Island, New Brunswick, Quebec and Ontario, apparently increasing in numbers to the west. Stragglers are found on Hudson bay and Spreadborough found them breeding at Moose Factory, James bay, June 9th, 1896, and a nest with ten fresh eggs on the west coast of the bay, July 10th, 1904. It no doubt breeds throughout the whole wooded region west of Hudson bay.

This is a common species, breeding from Manitoba westward through the prairie region, Rocky mountains at Banff, and north to lat. 55°; British Columbia, from Kamloops to the Pacific coast. Sir John Richardson places its northern limit at lat. 62°, and Bernard Ross places it on the Mackenzie river at Big island in nearly the same latitude. Spreadborough found it to be common in all the marshes between Lesser Slave lake and Peace River Landing, Atha. This species is unknown in Alaska.

Breeding Notes.—This species, like the Virginia rail, breeds in all marshes of sufficient size throughout western Ontario. (*W. Saunders.*) Nesting in clumps of rushes and grass growing in water. Nest rather compact, consisting of grass placed from six inches to one foot above the water. Young leave the nest as soon as hatched. A nest was taken at Deep lake, Indian Head, Sask., on June 29th, 1892, which contained three eggs and one young one just hatched,

the young one was dark slate on the back, below rather lighter, a chin patch of bright orange, almost red, bill light horn colour, except the base which was red. (*Spreadborough.*) A well-known species in Ontario and more generally distributed than the Virginia rail, though apparently not breeding so plentifully in the St. Lawrence district. I met with the bird on the Magdalen islands in June, 1897, when on the 22nd of that month I found among bull-rushes a nest containing six eggs and young ones just hatched. The nest was a neat affair constructed of last year's reeds and fastened to the stalks, in water that was knee-deep and only a short distance from a sandy bar that divided a large pond from the sea. The first nest I found in 1895, near the St. Lawrence, was built of grass-stalks in a tussock, where there was not much water. We have therefore three species, the two rails and the American bittern that vary their nesting location as well as the material they use, thus showing that one must have considerable experience before laying down as hard and fast facts, the site and construction of nests. (*Rev. C. J. Young.*) Two nests seen in the vicinity of Ottawa were fixed to the reeds in marshes like those of the red-winged blackbirds. They are not so deep, however, and are made of dry reeds. One was found in a tussock of grass. (*Garneau.*) Found breeding in small numbers in wet meadows or sloughs near Crane lake, Sask., and Many Island lake, Alta. (*A. C. Bent.*) Found breeding at Reaburn, Man., and Buffalo lake, Alta. (*Dippie.*)

In a marshy lake grown up with *Carex aristata*, within a couple of miles of Crane lake, Sask., the writer took a number of nests of this species on June 9th, 1894. The nests were near the water and constructed of dead *Carex* leaves. The eggs ranged in number from nine to sixteen and were but slightly incubated.

215. Yellow Rail.

Porzana noveboracensis (Gmel.) Baird. 1845.

July 13th, 1900, I flushed five yellow rails in the marsh at Beacon point, near York Factory. They were in open grassy places. I heard about a dozen but was unable to flush more than five. B el recorded this species from Fort George on the east side af Hudson bay. (*Preble.*)) Rare in autumn in Nova Scotia. (*Downs.*) Migrant in Nova Scotia. (*H. F. Tufts.*) A rare autumn visitor

in New Brunswick. (*Chamberlain.*) Rare migrant in Quebec. (*Dionne.*) A rare migrant in Ontario; occasionally taken in Toronto marsh. (*McIlwraith.*) Of late years this bird has been taken at Toronto, Ont., every year and must occur more commonly than is supposed. (*J. H. Fleming.*) A fine specimen of the yellow rail was shot at Rockland, Ont. (*G. R. White.*) I have found this bird during the nesting season (June) at the mouth of the Thames river, Ont. Seen and heard fifteen miles southeast of Red Deer, Alta., in June, 1906, where it was undoubtedly breeding. (*W. Saunders.*)

This species seems to be a far from rare summer resident in Manitoba. Seton in his *Birds of Manitoba*, gives many instances of its occurence and the writer's own observations agree with his expressed opinions. A small rail that seemed to jump out of the sedge, with legs hanging down, and just as suddenly drop again has been observed as far west as Moose Jaw, but in no case was a specimen obtained.

The following is Hutchin's manuscript notice of the bird written in 1777. "This elegant bird is an inhabitant of the marshes on the coast of Hudson bay near the eflux of the Severn river, about 150 miles south of York Factory, from the middle of May to the end of September. It never flies above sixty yards at a time, but runs with great rapidity among the long grass near the shores. In the morning and evening it utters a note which resembles the striking of a flint and steel; at other times it makes a shrieking noise. It builds no nest but lays from ten to sixteen perfectly white eggs among the grass."

216. Black Rail

Porzana jamaicensis (Gmel.) Baird. 1845.

Dr. Cottle of Woodstock, Ont., claims to have found a bird of this species at Ingersoll in 1856, and from my knowledge of Dr. Cottle I am satisfied his identification is correct. (*McIlwraith.*) Mr. Nash, who collected in the Dundas marsh in 1874, writes Mr. McIlwraith as follows in January, 1894:

"Aug. 18th, 1874.—Shot four of these birds this evening at the upper end of Dundas marsh. My dogs put them up where the

rushes had been mowed. This is the first time I ever noted them here. After this date I saw several others about the same place, during this year (1874). I also shot a few yellow rails, and saw many."

Cottle's record is, I believe, correct and is the only authentic Canadian record. (*J. H. Fleming.*) I believe I saw a black rail at the mouth of the St. Clair in June. It flushed very close to me and was very small with a sora-like bill and apparently exactly like skins of the black rail which I have seen. (*W. Saunders.*)

LXXXIII. **CREX** Bechstein. 1802.

217. Corn Crake.

Crex crex (Linn.) Sharpe. 1884.

A rare casual in Greenland. One obtained at Godthaab and sent to the museum of Copenhagen in 1851. (*Arct. Man.*) Taken in Greenland in 1887, 1892, 1893 and 1894. (*Winge.*)

In *The Auk* for January, 1899, Mr. James McKinley, of Pictou, Nova Scotia, records the shooting of a specimen of this species in a marsh near Pictou nearly twenty-five years ago. The specimen remained unidentified until a recent visit paid to Pictou by Mr. Frank M. Chapman, who at once identified it.

LXXXIV. **IONORNIS** Reichenbach. 1852.

218. Purple Gallinule.

Ionornis martinica (Linn.) Reich. 1852.

A very rare casual in Nova Scotia and New Brunswick. (*Downs. Chamberlain.*)

McIlwraith records the capturing of one individual at Pickering, Ont., in April, 1892.

The above are all the records we have of this species.

LXXXV. **GALLINULA** Brisson. 1760.

219. Florida Gallinule.

Gallinula galeata (Licht.) Bonap. 1832.

A rare casual in New Brunswick. One shot at Dick lake, September, 1879. (*Chamberlain.*) One specimen was taken during

the last week of September, 1898, on the Canard river, N.S. (*H. F. Tufts.*) A not uncommon summer visitor in Quebec. (*Dionne.*) A common summer resident at Montreal, but more plentiful in the autumn. (*Wintle.*) Not an uncommon summer resident in Ontario, and breeds from Ottawa to Lake Erie.

Breeding Notes.—A nest of this species with seven eggs, partly incubated, was taken at Kars, on the Rideau river, Ont., 9th July, 1890, by Messrs. W. and F. A. Saunders.

On June 6th, 1903, I visited the marshes at Lake St. Francis, near Summerton, Ont., and found the Florida gallinule nesting on a shallow platform of dead rushes fastened to reed stalks and elevated several inches above the water level; the nest contained eleven fresh eggs. (*Lewis M. Terrill.*)

A few years ago this was a common bird in many parts of Ontario but is becoming scarcer every year—not by reason of hunters only, but because of the draining and drying up of many of its former haunts. It still breeds in the inland marshes between Kingston and Brockville, and occasionally along the River St. Lawrence. It constructs in the water a nest of last year's stems of bullrushes, well surrounded by a growth of the same. Except in one case I have been able to row in a boat to all the nests I have found. The eggs are usually laid from the middle of May onward, the largest number I have found in one nest being eleven. They exactly resemble in size and colour the well known "moor-hen" of Britain, as does the location of the nest. (*Rev. C. J. Young.*) This species builds in the larger marshes only. I have found it, however, in the marsh at Toronto. The nest is built like that of a rail, fastened to the surrounding rushes, and usually high enough to escape the moisture. Eggs six to ten. (*W. Saunders.*)

LXXXVI. **FULICA** Linnæus. 1758.

220. European Coot.

Fulica atra Linn. 1758.

Accidental in Greenland. (*A. O. U. List.*) Collected in South Greenland, and now in the Copenhagen museum. (*Winge.*)

221. American Coot. Mud-hen.

Fulica americana GMEL. 1788.

Twice obtained in Greenland in the same year (1854); once at Godthaab and once at Disco bay. (*Arct. Man.*) One shot on a lake near Nain, Labrador, several years ago. (*Packard.*) Not very common in the autumn in Nova Scotia. (*Downs.*) A summer visitant, increasing in numbers in New Brunswick. (*Chamberlain.*)

Breeding in the valley of the St. Lawrence and western Quebec and throughout Ontario, and westward to the Pacific coast and Vancouver island. The writer found it scattered throughout the prairie region, generally in large flocks, but often only a few pairs, or one pair, in small ponds. The chief breeding-grounds are in Manitoba and northwestward. It was breeding in Vermilion lakes at Banff, Rocky mountains, May 11th, 1891. Richardson says its northern limit is lat. 53°, and Bernard Ross puts its limit at Fort Simpson, on the Mackenzie, in lat. 62° 30′. Spreadborough found it to be common in all the marshes from Lesser Slave lake to the Peace river, Atha. Although quite common in British Columbia, only one specimen is recorded by Nelson as taken in Alaska.

BREEDING NOTES.—The coot builds on a mass of old reeds. The nest is composed of small pieces of reeds and marsh grass, with no particular lining. The eggs, six or more in number, are of a clear clay colour, dotted all over with specks of dark brown. As the old bird has a habit of covering the nest over whenever she leaves, it is very hard to find. Breeds in the marshes around Ottawa, Ont. (*G. R. White.*) Breeds in the same localities with the Florida gallinule, and constructs its nest in the same manner. (*W. Saunders.*) Nests in reeds and grass growing in the water along the margins of lakes and ponds. The nest is composed of reeds and grass, and rather small and shallow. The young leave the nest as soon as they are hatched. Found breeding in marshes at Indian Head and Crane lake, Sask., at Banff, Rocky mountains, and at Kamloops, B.C. (*Spreadborough.*) In a marsh at Crane lake, composed chiefly of *Carex aristata* and a few clumps of *Scirpus lacustris*, the writer, in the course of an hour's wading, discovered eighteen nests of this species, nearly all of which contained eleven eggs. From ten to twelve was the usual number. The young hatch out very irregularly, and as fast as they come from the shell they leave the

nest and take to the water. The nests were all made of the dead *Scripus* and lined with the broad leaves of the *Carex*.

Order. LIMICOLÆ. Shore Birds.

Family XIX. PHALAROPODIDÆ. Phalaropes.

LXXXVII. CRYMOPHILUS Vielliot. 1816.

222. Red Phalarope.

Crymophilus fulicarius (Linn.) Stejn. 1885.

Said to be the latest summer bird to arrive in Greenland; very rare in the south and not known to breed below lat. 68° N., but thence northward, common. (*Arct. Man.*) It is a common migrant in Newfoundland, Labrador, Nova Scotia, including Sable island, New Brunswick and Quebec, but rare in Ontario and prefers the coast to the more inland waters. It is abundant on the shores of Hudson strait and a few breed there according to Turner. Common and breeding around Hudson bay. Only two specimens have been seen on the prairies by the writer, one shot on Long lake, in July, 1879, and another on Old Wives lake, in May, 1895. Fannin mentions the species as being taken in British Columbia at Burrard Inlet and at Chilliwack only.

This species abounds in high northern latitudes, breeds on the North Georgian islands and Melville peninsula, and was often seen by northern expeditions swimming in the sea far from land. (*Richardson.*) This bird is fairly abundant on the shores of Franklin bay, where nests were obtained on marshy flats in the first week of July, 1864. (*Macfarlane.*) This species arrives at the Yukon mouth and adjacent parts of the Bering sea coast during the last days of May and the beginning of June. It breeds abundantly on all the coasts and islands and far into the interior. (*Nelson.*) The red phalarope arrives at St. Michael about the beginning of June. It is not abundant at any time but is rather more common on the mainland than on the island of St. Michael. In the neighborhood of the Yukon delta it is abundant throughout the summer. (*Turner.*) One of the commonest birds at Point Barrow, and remaining till late in October when the sea begins to close. (*Murdoch.*) We sawfa

small flock of this species near Skagway, Alaska, and others I believed to be this species near Wrangell narrows and in Prince Frederick sound. (*Bishop.*) This species is an abundant migrant on the Pribilof islands but found in the greatest numbers in the autumn. (*Palmer.*)

Breeding Notes.—Very early in June, at St. Michael, Alaska, the eggs are laid in a slight depression, generally on the damp flats where the birds are found. There is rarely any lining to the nest. Towards the end of June most of the young are hatched and by the middle of July are on the wing. The sites chosen for this bird's nest are very similar to those taken by *P. lobatus*, except that the latter may pick drier situations. One nest was taken on June 8th within six feet of a brackish pool, the eggs being deposited in a nest of dried leaves under a dwarf willow. (*Nelson.*) Very common around Fullerton and Southampton island, Hudson bay. They nest around fresh-water ponds laying their eggs, without nesting material, in depressions in the sand or moss, often in lichens. (*A. P. Low.*)

LXXXVIII. **PHALAROPUS** Brisson. 1760.

223. Northern Phalarope.

Phalaropus lobatus (Linn.) Salvad. 1872.

Seems to be the commonest species of phalarope in Greenland, and possibly very far to the northward. (*Arct. Man.*) Breeds on islets in Ungava bay and is common along the northern coast of Labrador. (*Turner.*) Observed about a dozen in a small pond on an island in James bay, June 16th, 1896, where they were evidently breeding. None were seen in the interior of Labrador. (*Spreadborough.*) A migrant in Newfoundland, Nova Scotia, and New Brunswick.

It is a common migrant in Quebec but rare in Ontario. Common in summer in all parts of Hudson bay, where it undoubtedly breeds in large numbers, although it seems to be a rare migrant in Manitoba. Dr. Coues found this bird in numbers in a pool near the base of the Rocky mountains, not far from the International Boundary, on August 16th, 1874, and thought it might breed there. It was very abundant at Indian Head, Sask., in 1892. Spreadborough says it was first seen there May 15th, but by May 25th to

30th there were thousands at Deep lake, yet on June 3rd they were all gone. On June 3rd, 1895, specimens were shot by the writer at Thirty-mile spring, and on June 6th others at Twelve-mile lake, near Wood mountain, Sask. They seemed to be breeding. Bishop and Bent saw several migrating flocks near Hay lake, Sask., May 29th, 1905, in company with sanderlings. Two males taken at Big Stick lake by Bishop, June 14th, 1906, were in breeding condition. A flock seen by Bishop, July 13th, was the beginning of the fall migration. In August, 1906, Atkinson noted this bird in "countless thousands" between Saskatoon, Sask. and Edmonton, Alta. Richardson, Ross and Macfarlane agree in saying that this species occurs in immense numbers in the breeding season both in the wooded country and Barren Grounds and extends right up to the Arctic coast. Nelson and Turner both say that this is a very common species in Alaska, breeding throughout most of the country, but especially along the marshy northern coast. In British Columbia it is a common migrant, and Mr. Fannin has taken it in July on Burrard inlet, so it is probable that a few pairs breed there. Brooks says that it may breed in northern Chilcotin, B.C.

Breeding Notes.—This species arrives at St. Michael, Alaska, about May 25th. Its food consists entirely of aquatic worms, slugs, larvæ and flies. It breeds in June. The nest is placed among the grasses and consists of a lot of grass blades arranged with little care. Four or five eggs, of greenish ground, thickly blotched with dark, are laid. The young are able to fly by the first of August. (*Turner.*) The usual number of eggs is four, which vary considerably in exact colouration. The ground-colour in the very large series before me, obtained in the vicinity of St. Michael, shades by every degree from the greenish clay colour to warm, buffy olive-brown. The spots and markings are very irregular in size and shape, but are usually larger about the large end of the egg. (*Nelson.*) The nest, like that of the red phalarope, is a slight depression in the ground, lined with a few dry leaves and grasses, and is almost invariably situated on the margin of small pools or sheets of water. Upwards of seventy nests were secured, the number of eggs being always four. (*Macfarlane.*)

Principally migratory, but a few breed on the Pribilof islands. Elliot collected young on St. George island in 1873, and I obtained two, just from the egg, on St. Paul island, July 2nd, 1890. These

birds arrive in small numbers about the end of May, and mostly pass northward, only a few pairs remaining on the islands to breed. (*Palmer.*)

LXXXIX. STEGANOPUS Vielliot. 1819.

224. Wilson Phalarope.

Steganopus tricolor Vieill. 1819.

Occasional in Quebec. (*Dionne.*) An accidental visitor in Ontario. (*McIlwraith.*) Rare migrant at Toronto, Ont. (*J. H. Fleming.*) This is a common species throughout the whole prairie region, breeding by marshy ponds in all suitable places, from Pembina to the Rocky mountains, and may reach Hudson bay, as a phalarope record from Fort Severn by Murray is thought to be this species. Richardson says it does not extend to the north farther than lat. 55°. Fannin has not seen it and Brooks only once positively identified it in the Fraser River valley, at Chilliwack.

Breeding Notes.—This species was first seen, May 18th, 1892, at Indian Head, Sask., but never became common, although it breeds in large numbers in the "sloughs" to the south of Deep lake. Its habits are much like those of the sandpipers as it runs up and down the shore like them and swims very little. On June 23rd, a young one had three black stripes on the back, one reaching from the base of the bill to the rump. The rest of the body was bright buff, almost orange. This species is common from Indian Head to Edmonton, Alberta, nesting among short grass in low damp ground near the water. Nest, a shallow hole in the ground, lined with a little grass. Young leave the nest as soon as hatched. (*Spreadborough.*) This species breeds at Reaburn, Man., Rush lake, Sask., and Buffalo lake, Alberta. (*Dippie.*) A number of nests of this species were taken by the writer on June 5th and 6th, 1895, at Twelve-mile lake, near Wood mountain, Sask. They contained from three to four eggs each. The nest was a small hole in the ground, generally between bunches of old grass, in a dry spot, either in, or on the borders of, a marsh. One nest was in a tuft of wild barley (*Hordeum jubatum*). Quite common at Crane lake, Sask., and breeding, 1894. Found a nest with eggs nearly hatched on June 7th. Nest on the ground beside a tuft of grass; breeding also in a marshy pond at the east end of Cypress hills, June 26th,

1894, and at Cypress lake and Sucker creek, Sask., June 30th, 1895. Found breeding in Saskatchewan by Bishop, Bent and Raine.

FAMILY XX. RECURVIROSTRIDÆ. AVOCETS AND STILTS.

XC. RECURVIROSTRA LINNÆUS. 1758.

225. American Avocet.

Recurvirostra americana GMEL. 1788.

A single specimen of this bird was killed at St. John, N.B., and is in Mr. Carnal's collection. (*Chamberlain.*) I am aware of three individuals of this species having been taken at different times at Rondeau, on the north shore of Lake Erie, but these are all I have heard of in Ontario. (*McIlwraith.*) Accidental migrant at Toronto, Ont. Two records. An adult male in gray plumage was taken September 19th, 1901. (*J. H. Fleming.*)

Quite rare in eastern Manitoba, but common throughout the prairie region—chiefly on the borders of brackish ponds, where it breeds in great numbers. Its chief range is from the International Boundary north to lat. 54°, but it has been taken as far north as Fort Rae on Great Slave lake.

BREEDING NOTES.—The breeding range of this species, according to my observation, is from Indian Head to within a few miles of the Rocky mountains. It was first seen at Deep lake, Indian Head, Sask., on May 14th, 1892; by June 3rd it was breeding in numbers on a long point of land that ran far out into a small lake in township 16, range 13. At various times after June 13th, took numerous nests; one was taken with two eggs, none with more than four. The nest, in nearly every case, was a shallow depression in the sand between three or four stones, and was lined with a few pieces of grass. The chief nesting places are on the borders of alkali ponds, and the nest is always near the water. Breeding generally commences the last week in May, and the young leave the nest as soon as hatched. (*Spreadborough.*)

My observations confirm Spreadborough's in every particular. Eggs and downy young taken near High river, Alta., June, 1906. (*W. Saunders.*) Found breeding on the shores of Crane lake, Hay lake and on Gull island in Big Stick lake, Sask. (*A. C. Bent.*) On

June 10th, 1891, I found a large colony of avocets nesting on an island in a small lake ten miles north of Rush lake, Sask. I again visited this place on June 15th, 1895, when I found the big colony still at its old breeding haunts. There must have been some 200 nests on the island and they were so close together that I had to use caution in walking for fear of treading on the eggs. The nests were simply hollows in the sand lined with bits of grass. (*Raine.*)

FAMILY XXI. **SCOLOPACIDÆ.** SNIPES, SANDPIPERS, &c.

XCI. **SCOLOPAX** LINNÆUS. 1758.

227. European Woodcock.

Scolopax rusticola LINN. 1758.

A single specimen is said to have been killed in the neighbourhood of St. Johns, Newfoundland, in January, 1862. (*Reeks.*) A specimen was shot at Chambly, Quebec, on the 11th November, 1882, by a French Canadian, and was secured by Mr. Brock Willett. It was sent to the late Mr. William Couper to be stuffed, who recorded its occurrence in the *Canadian Sportsman and Naturalist.* (*Wintle.*)

XCII. **PHILOHELA** GRAY. 1841.

228. American Woodcock.

Philohela minor (GMEL.) GRAY. 1841.

Several persons stated they had killed woodcock on the eastern shores of Labrador. (*Packard.*)

This species is common in Nova Scotia and breeds early in spring. (*Downs, Tufts.*) An abundant summer resident in New Brunswick where it also breeds. (*Chamberlain.*) Found breeding at Georgetown, Prince Edward island, August 17th, 1888; common in Quebec and eastern Ontario, but more abundant in the western part of the province. It breeds throughout its range. Not so common as formerly in most parts of Ontario.

This species is a rare summer resident in Manitoba, and probably does not extend farther west than Brandon, as no specimens have ever been seen or recorded beyond that place—150 miles west of Winnipeg.

Breeding Notes.—A pair nested in a field near Bracebridge, Muskoka, Ont., a few years since, but the species is rare in this district. (*Spreadborough.*) It is becoming scarcer every year in the St. Lawrence valley. A few birds breed in the vicinity of the lake near MacIntosh Mills, Ont. I met with a nest on June 3rd, 1891. It was made on a little mossy hillock in a small clump of second-growth trees, near a large grove, and at no great distance from the edge of the lake. At that date the eggs—four in number—were greatly incubated. They exactly resembled those of the old-world species, but are smaller. This bird is still not uncommon (1906) in the vicinity of Madoc, Hastings county, Ont. It breeds in the townships of Huntingdon and Rawdon. (*Rev. C. J. Young.*) On May 20th, 1895, Mr. Robert Johnson of the Geological Survey found a nest of this species in a piece of swampy ground on the left of the Chelsea road, south of the crossing of the Gatineau Valley railway. It was on a hummock in the swamp and was merely a depression lined with grass and sheltered by cedar bushes. The locality is about four miles from Ottawa.

XCIII. GALLINAGO Leach. 1816.

229. European Snipe.

Gallinago gallinago (Linn.) Licht. 1854.

One received from Dr. Paulsen in 1845, but this species has been so often observed in Greenland that it may very likely breed there. (*Arct. Man.*) This species and the next are, according to Winge (*Greenland Birds*, p. 176), about equally numerous in Greenland. Neither is common. He thinks they may perhaps breed.

230. Wilson Snipe.

Gallinago delicata (Ord) A. O. U. List. 1886.

A common summer migrant and breeds in Newfoundland, Nova Scotia, New Brunswick, Prince Edward Island, and abundantly on all the islands in the Gulf of St. Lawrence, as well as in Quebec and eastern Ontario. Spreadborough found it breeding from Missinabi north to Cape Henrietta Maria, James bay, and at Great Whale river, Hudson bay, where he saw one with a young brood in July, 1896.

In the west, it is found throughout the whole prairie region, especially in all marshes in the wooded country. This species is found in British Columbia, from the International Boundary to Alaska, and on Vancouver island, where it breeds, and according to Brooks it is a common summer resident in the Cariboo district, and a few winter on Lake Okanagan, B.C. Both Turner and Nelson report it of wide distribution in Alaska, and Macfarlane found it breeding on the Anderson river.

Breeding Notes.—A few pairs still breed in the county of Leeds, Ont. Early in June, 1892, a nest with four eggs was obtained at "Black Pond" near Brockville; on the 9th June, 1896, I saw one of these birds perched on a stump in a wet meadow ; no doubt the female was nesting in the vicinity. The place where I have noticed this species breeding most commonly was on the Magdalen islands. There it may still be said to be plentiful. I obtained three eggs, incubated, early in June, 1897. It breeds principally in boggy places not far from the sea, and in the breeding season is quite noisy and soon makes its presence known. The nest on the Magdalen islands is not, as a rule, placed in the wettest part of the bog but near the edge of the growth of spruce, where a stunted tree struggles to live here and there in the shaking bog. Alongside one of these, or even under a branch, a nest may be found, in which respect as far as the selection of a breeding-site goes, it differs somewhat from its very near relative, the European snipe. (*Rev. C. J. Young.*) I am informed by Mr. John Burke, a farmer near Rondeau, Lake Erie, and an accurate observer, that he has of late years found several nests of this species near the marsh. (*W. Saunders.*) Found a nest with four eggs near Listowel, Ont., May 17th, 1905. A clump of willows grew about six feet from a pool and midway between the willows and the water was the nest. It was simply a slight depression made by the bird in the moss and dry grass, lined with fine dry grass. (*W. L. Kells.*) These birds dig their nests in the ground in marshy places and line them with grass and ferns. I have found two nests near Ottawa, Ont., one on the 22nd May, 1900, the other, 12th May, 1905. (*Garneau.*)

The favourite haunts of this bird are the open grassy sloughs or bogs which intersect Manitoba. The position of the only nest of this species that I found was on a slightly elevated tussock or sod in the middle of a wide muskeg. The nest consisted of a slight

hollow, with a few straws for lining and was raised only a few inches above the water. This was in the third week in July, and by the 27th of that month the four young ones were hatched and immediately left the nest. (*E.T. Seton.*) Found several pairs breeding in a marsh near Sidley, B.C., May 13th, 1905. May 28th found a nest with four eggs in a clump of grass under a small willow bush in a wet marsh. Nest made of dry grass. (*Spreadborough.*)

In August, 1894, the writer saw a female and young birds of this species in the marsh at St. Patrick Street bridge, Ottawa, Ont.; early in May, 1890, he found a nest beside a log in a small bog close to the Canadian Pacific railway water-tank at Revelstoke, B.C. The nest was close to the water and any one walking along the railway could see the bird, but she hatched out her young and led them off in safety. Another nest was found in a bog a little south of Donald in the Columbia valley, B.C., in July, 1885; this contained four eggs almost incubated. Breeding at east end of Cypress hills, Sask., on June 24th, 1894. Young ones able to fly. Mr. Fannin writes that the eggs of this species were taken near Enderby, south of Shuswap lake, B.C., May, 1891, by Mr. De Blois Green.

This species is not particularly numerous in the Anderson river country, as we found comparatively few nests. I may here remark that the nests of all the snipes and sandpipers are much alike in composition, number of eggs, and situation. (*Macfarlane.*) I found not less than four nests in a couple of hours in the Little Red Deer region, Alta., on June 3rd, 1906. The nests were substantial ones built in the centre of tufts of marsh grass growing around the margin of a small lake. The birds sit so close that I found all the nests by almost stepping on the bird. (*Raine.*) Breeds everywhere in suitable places in Manitoba and west to Edmonton, Alta. They evidently breed early as I saw young flying well at Yorkton, Sask., July 6th, 1906. (*Geo. Atkinson.*)

230.1. **Greater Snipe.**

Gallinago major (Gmel.) Koch. 1816.

Accidental in North America. Taken in Hudson bay. (*Coues, Auk, Vol. XIV., p.* 209, 1897.)

XCIV. MACRORHAMPHUS Leach. 1816

231. Dowitcher. Red-breasted Snipe.

Macrorhamphus griseus (Gmel.) Leach. 1816

Occasional in Greenland. One sent from Fiskenaes to Copenhagen in 1824. (*Arct. Man.*) Rare at Fort Chimo, Ungava. Common in southern and western portions of Labrador. (*Turner.*) A summer migrant in Newfoundland and breeds. (*Reeks.*) Fort Churchill, Hudson bay. (*Wright.*) Migrant in Nova Scotia. (*H. F. Tufts.*) Autumn migrant in New Brunswick. (*Chamberlain.*) Not uncommon in Quebec. (*Dionne.*) Occurs in small flocks along the Richelieu river near St. John, Que., but is rarer near Montreal on the St. Lawrence river. (*Wintle.*) Regular migrant at Toronto, Ont. (*J. H. Fleming.*) A pair was shot at Ottawa, Ont., by Mr. G. R. White, May 22nd, 1890, and a few others recorded. McIlwraith says it is a straggler in western Ontario.

Its breeding grounds seem to be to the north and northwest of Hudson bay.

232. Long-billed Dowitcher.

Macrorhamphus scolopaceus (Say) Lawr. 1852.

Migrant in Nova Scotia. (*H. F. Tufts.*) Abundant on the meadows bordering Button bay, near Fort Churchill, Hudson bay, July 31st. The species was then moving southward and was not seen after August 3rd. (*Preble.*) Rare migrant at Toronto, Ont. (*J. H. Fleming.*)

This species takes the place of *M. griseus* from Manitoba westward. Although not common in eastern Manitoba it becomes abundant to the west, and during migration this species is very plentiful throughout the prairie region. As it arrives in great numbers on the prairie in August its breeding places are likely south of the Arctic circle. Besides covering much country east of the mountains, it is very abundant in Alaska, breeding as far north as Point Barrow, where Murdoch says it is not common in the breeding season. It is very rare in the Rocky mountains, only one being taken at Banff in 1891. Both Lord and Fannin say it breeds in British Columbia, and Brooks found it common in autumn in the

Fraser valley. Spreadborough saw one individual in a marsh on the Grand prairie, Peace river, Atha., in 1903, and found it in large flocks at Stubbs island, west coast of Vancouver Island, August, 1893.

Breeding Notes.—This species arrives quite early at the Yukon mouth, often by the 10th May. Towards the end of the month it is plentiful and is beginning to breed. On June 16th, while crossing a tussock-covered hill-top, over a mile from any water, I was surprised to see a female of this species flutter from her nest about six feet in front of me and skulk off through the grass with trailing wings and depressed head for some ten or fifteen yards. She stood, nearly concealed by a tuft of grass, and watched me as I pillaged her nest of its treasures. The eggs, four in number, rested in a shallow depression formed by the bird's body in the soft moss, and without a trace of lining. Other nests taken were of the same character. By the last of July the young birds can fly with their parents. (*Nelson.*) A few nests of this species were taken between the 21st June and July 1st. The eggs were always four in number. (*Macfarlane.*) I was astonished to find this Arctic-breeding bird nesting amongst the muskegs in northern Alberta. On June 3rd, 1906, I found a nest containing four handsome eggs. It was built in the middle of a bunch of grass like that of the Wilson snipe but its eggs are not so olive in ground colour and are more like those of the buff-breasted sandpiper. The bird sat close but was easily identified as it flew and settled a short distance off. (*Raine.*) Mr. Raine sends this note under the heading of *M. griseus* but from what is known of the range of the two species the bird seen seems more likely to have been *M. scolopaceus*. Until specimens are collected the nesting of this bird in Alberta must remain in doubt.

XCV. **MICROPALAMA** Baird. 1858.

233. Stilt Sandpiper.

Micropalama himantopus (Bonap.) Baird. 1858.

Not common at Cow Head, Newfoundland. One specimen killed in September, 1867. (*Reeks.*) Not rare in New Brunswick, but on account of its rapid migration it is not often noticed. (*Chamberlain.*) Fort Churchill, Hudson bay. (*Wright.*) A male bird was shot on the mud beside a pool on the tundra about 50 miles north of York

Factory, July 19th. Several more were noted August 12th about 25 miles south of Cape Eskimo. (*Preble.*) Regular fall migrant at Toronto, Ont., not common. Adults in full plumage, July 18th to 28th and young August 9th to September 26th. There are records of birds from June 25th to 30th but I have not seen these specimens. (*J. H. Fleming.*)

It seems to be rare in Manitoba, as Seton records only one positive capture, but Spreadborough found it common at Indian Head, Sask., in September, 1891. In the following spring it was first seen on the 18th May, and had disappeared by June 5th. Dr. Coues obtained specimens in a pond near the eastern base of the Rocky mountains on August 16th, 1874, in lat. 49°. Sir John Richardson says it is not uncommon up to the 60th parallel and still farther north. It is frequent in the interior in the breeding season, and resorts to the shores of Hudson bay in autumn, before going south. It was found by Ross on the Mackenzie as far north as Fort Simpson, but rare. Kermode records one specimen as having been taken by Brooks at Chilliwack, B.C., August 19th, 1899. Our records of this species are scanty, but its chief breeding haunts are likely along the southwest side of Hudson bay.

Breeding Notes.—The stilt sandpiper was fairly abundant on the shores of Franklin bay, where a number of nests with eggs and young were discovered. It is, however, very rare in the interior only one nest being taken at Rendezvous lake on the borders of the wooded country east of Fort Anderson. (*Macfarlane.*)

XCVI. **TRINGA** Linnæus. 1758.

234. **Knot. Gray-back. Robin Snipe.**

Tringa canutus Linn. 1758.

Rare in the south of Greenland but often met with in the north; believed not to breed below lat. 68°; reported to have been found breeding on Melville peninsula and Parry islands. (*Arct. Man.*) A migrant in Newfoundland; a rare autumn and winter visitant in Nova Scotia and New Brunswick. Rare in Quebec but commoner in Ontario. On the 4th June, 1890, Mr. Ernest White of Ottawa, Ont., obtained eight specimens out of a flock of about seventy, but it has never been taken since. A few specimens are recorded from

Hamilton, Ont., by Mr. McIlwraith. Fleming says that though rather common in the spring he has seen no adult birds in the autumn. Dr. Coues records taking a few specimens in immature plumage at Henley harbour, Labrador, in 1860. A tolerably common migrant in Manitoba but rare farther west. It is common in summer along the shores of the Arctic sea and on the islands to the north. In Alaska it is common in some localities and rare in others. According to Fannin it is abundant along the coast of British Columbia during migration.

Breeding Notes.—Thek not breeds on Melville peninsula and in other parts of Arctic America, and also on Hudson bay, down to lat. 58°. It lays four eggs in a withered tuft of grass. (*Richardson.*) The knot bred, among other places, at the head of Gaasefjord, Ellsemere island, where its young were found. (*E. Bay.*)

Major Henry W. Feilden, naturalist to the Nares Arctic Expedition, says he was not so fortunate as to obtain the eggs of the knot during his stay in the Polar regions, though it breeds in some numbers along the shores of Smith sound and the north coast of Grinnell land. On July 30th, 1876, however, three seamen walking by the border of a small lake, not far from the ship, came upon an old bird accompanied by three nestlings, which they brought to Mr. Feilden. Lieut. A. W. Greely, U.S.A., commander of the late expedition to Lady Franklin sound, succeeded in obtaining the long-sought-for egg of this species. The specimen of the bird and egg were obtained in the vicinity of "Fort Conger," lat. 81° 44′ N. The egg was of a light pea-green colour, closely spotted with brown in small specks about the size of a pin's head. (*The Auk, Vol. II., pp.* 312-313.)

XCVII. **ARQUATELLA** Baird. 1858.

235. Purple Sandpiper.

Arquatella maritima (Brünn.) Coues. 1861.

Occurs in winter off the coast of Greenland, if the sea be open; breeds on Melville peninsula and west side of Davis strait. (*Arct. Man.*) Common in winter, and a few breed at Ivigtut, Greenland. (*Hagerup.*) This species abounds on the Atlantic coast to the north and south of Labrador in spring and fall. (*Turner.*) Only one was

procured or seen at Wales sound, Hudson strait, in 1885. (*Payne.*) A summer migrant, but rare, at Cow Head, Newfoundland; an uncommon winter resident on the Nova Scotia coast; not rare on the coast of New Brunswick in winter; occasional at Beauport, Montreal, and other points on the river St. Lawrence. Occasional at Ottawa, Ont.,—one taken by Mr. N. Forbes on the Rideau river, October 28th, 1885, and another by Mr. G. R. White. The same year one specimen was taken at Hamilton, Ont., by Dr. K. C. McIlwraith, and a few others since. Fleming records it as a rare but regular fall migrant at Toronto, Ont. It has never been noticed in the west, and seems to be solely a northeastern bird.

Breeding Notes.—This species breeds so far to the north that we can add nothing to what Sir John Richardson said so many years ago—that it breeds abundantly on Melville peninsula and the northern shores of Hudson bay.

236. Aleutian Sandpiper.

Arquatella couesi Ridgw. 1880.

This bird nests throughout the Aleutian chain from the westernmost island east to the Shumagin group, south of Aliaska. In its autumnal wanderings it extends all along the eastern shore of Bering sea and even along the coast of the Arctic sea. Its winter range includes the Aleutian islands and the coast of Kadiak, with the mainland to Sitka and probably farther south. (*Nelson.*) This species arrives at St. Michael early in May, and is then strictly littoral-maritime, resorting to the larger boulders and rocky shelves covered with sea-weed, among which the birds search for slugs and other marine worms. (*Turner.*) One specimen taken on Kádiak island, Alaska. (*Grinnell.*) One specimen taken by Figgins at Homer and three males and two sets of eggs by Anderson at Mueller bay, Alaska. (*Chapman.*) Three specimens in winter plumage were obtained at Port Clarence, Alaska, Aug. 22nd, 1898. (*McIlhenny.*)

Breeding Notes.—The Aleutian sandpiper arrives at St. Michael early in May of each year and in considerable numbers, being generally, on its arrival, in the dark plumage, which is changed for that of summer by the first of June in this locality. By the middle of June it is rare to see one of these birds in the winter plumage. On

assuming the summer plumage, their habits are entirely changed. They build their nests on the dryer places of the marshy ground, and are usually seen singly or in pairs. The nest is comfortably made of dry grasses and a few feathers, placed on a dry tuft of grass, perhaps surrounded by water. The young are able to leave the nest by the 10th of July. The number reared in a nest is four or five. They follow their parents until they assume the winter plumage, in the latter part of August or September or even later. (*Turner.*)

237. Thick-billed Sandpiper. Pribilof Sandpiper.

Arquatella ptilocnemis (COUES) RIDGW. 1880.

Mr. H. W. Elliott, the discoverer of this species, speaking of its range, says that besides the Pribilof islands, he found it just as abundantly on St. Matthew island in 1874, 200 miles to the north, where it was breeding in large numbers as it does on the Pribilofs. A single pair was found nesting (by himself) on the south shore of St. Lawrence island in June, 1881. Krause, in winter, secured three specimens at Portage bay, which is on the mainland near the end of Chilcat peninsula, but saw no large flocks until April, so that it is probable they winter south along the coast of Alaska and possibly British Columbia. (*Nelson.*)

BREEDING NOTES.—I may say that this is the only wader that incubates on the Pribilof islands, with the marked exceptions of a stray couple now and then of *Phalaropus hyperboreus*. It makes its appearance early in May and repairs to the dry uplands and mossy hummocks, where it breeds. The nest is formed by the selection of a particular cryptogamic bunch. It lays four darkly-blotched pyriform eggs, and hatches them within twenty days. The young come from the shell in a thick, yellowish down, with dark-brown markings on the head and back, getting the plumage of their parents and taking to wing as early as the 10th of August. (*Elliott.*)

XCVIII. ACTODROMAS KAUP. 1829.

238. Sharp-tailed Sandpiper.

Actodromas acuminata (HORSF.) RIDGW. 1880.

On September 16th, 1877, near St. Michael, I had the pleasure of securing a handsome young female of this bird, thus adding this

species to our fauna. Afterwards it was found to be the most common species of snipe at St. Michael, frequenting the borders of brackish pools and tide-creeks in company with other species. At Port Clarence and Kotzebue sound, single specimens have been taken and these, with those taken by the writer at St. Michael, include all the specimens up to date. (*Nelson.*) Took three and saw about a dozen during the short time we were on St. George island, Bering sea, Oct. 3rd. One secured at Unalaska, Oct. 5th. (*Bishop.*) Taken at Massett, Queen Charlotte islands, B. C., Dec. 27th, 1897, by Rev. J. H. Keen. (*Fannin.*) Saw one near the mouth of Campbell river, Comox, Vancouver island. (*Brooks.*) A species of Eastern Asia and evidently breeding near the mouth of the Yukon.

239. Pectoral Sandpiper. Jack-snipe.

Actodromas maculata (VIEILL.) COUES. 1861.

One was received from Greenland in 1851 by the Copenhagen museum, and two others were sent there from near Disco in 1859. (*Arct. Man.*) Occasional in Greenland. Several skins have been taken since 1860. (*Winge.*) First seen on the marshes about 50 miles north of York Factory, July 19th where it was rather common. Common on the meadows bordering Button bay, July 31st and abundant on the Barren Grounds south of Cape Eskimo, August 3rd to 13th. (*Preble.*) A common migrant along the whole Atlantic coast from Cape Chidley south to New Brunswick and Nova Scotia and in Quebec, Ontario and Manitoba, but rare farther west. Only one specimen was seen by Mr. Spreadborough at Indian Head, Sask., in the spring of 1892, and further west, along Milk river, a female was shot, July 16th, 1895. Dwight and Bishop found a few adults at Big Stick lake, Sask., July 18th–22nd, 1905, and Atkinson records it as abundant in 1906 after August 8th, between Manito lake and Edmonton.

Nelson and Murdoch say that it is common in Alaska, breeding in numbers as far north as Point Barrow. North of the Mackenzie river and along the Anderson river, farther east, it is quite rare, as Macfarlane saw very few and obtained no nests. Fannin and Brooks report that it is not common in the migrations in British Columbia. On Stubbs island, on the west coast of Vancouver islaud, Spreadborough killed ten at one shot in August, 1893.

Breeding Notes.—This species arrives at Point Barrow about the end of May or early in June, and frequents the small ponds and marshy portions of the tundra along the shore, sometimes associated with other small waders, especially with the buff-breasted sandpiper, on the high banks or the Nunava. They begin pairing soon after their arrival, and are frequently to be seen chasing each other in the air with a loud chatter. The nest is always built in in the grass, with a decided preference for high and dry localities, such as the banks of gullies and streams. It is sometimes placed at the edge of a small pool, but always in grass and in a dry place, never in the black clay and moss, like the plover and buff-breasted sandpiper, or in a marsh like the phalaropes. All the complete sets contained four eggs. (*Murdoch.*)

240. White-rumped Sandpiper.

Actodromas fuscicollis (Vieill.) Bonaparte. 1856.

Believed by Holbœll to breed near Julianshaab, Greenland, where both old and young birds have been seen. (*Arct. Man.*) A few skins taken in Greenland since 1840. Perhaps a few breed. (*Winge.*) Rather common on the meadows bordering Button bay. A number noted on the Barren Grounds below Cape Eskimo, Hudson bay. (*Preble.*) In flocks on the west coast of James bay in August. (*Spreadborough.*) A common migrant along the whole Atlantic coast and Gulf of St. Lawrence as well as the river up to Montreal, becoming scarcer in Ontario and increasing again in Manitoba where it is common as a migrant. A few seen as far west as Crane lake, Sask. A few must breed around Indian Head, Sask., as they were observed there from May 9th to July 1st, 1892, when Spreadborough left. Sir John Richardson says this species is not infrequent on the shores of the small lakes that skirt the Saskatchewan plains. Murdoch records the shooting of two birds of this species at Point Barrow and McIlhenny five specimens at the same place; these are the only Alaskan records. Payne says they occur in large flocks in late summer at Cape Wales, Hudson strait, but do not breed. Both Spreadborough and Turner found them in large numbers in Ungava bay, Labrador, in the autumn, and Macfarlane found a few breeding on the shores of Franklin bay, Arctic sea. Their chief breeding-ground would seem to be north of Hud-

son bay and northwesterly along the shores of the Arctic sea to the mouth of the Mackenzie river.

Breeding Notes.—Several nests of this sandpiper were taken on, or near, the Arctic coast of Franklin bay. One taken July 3rd containing four eggs with very large embryos. Another discovered on the following day held but three eggs. A third found in the Barren Grounds on the 29th June was, like the rest, a shallow depression in the ground, lined with a few decayed leaves, containing four eggs, also having very large embryos. A fourth, on the banks of a small river, held four eggs. (*Macfarlane.*) Breeds in swampy ground around Fullerton, Hudson bay. (*A. P. Low.*) This bird is a common summer resident on Herschell island. It lays four eggs in a hollow in the moss about the middle of June, selecting the higher parts of the island where a reddish kind of moss grows and as the eggs are spotted with reddish brown they greatly resemble the moss on which they are laid. (*Raine.*)

241. Baird Sandpiper.

Actodromas bairdii Coues. 1861.

Accidental at Digby, Nova Scotia. (*Gilpin.*) Migrant in Nova Scotia. (*H. F. Tufts.*) Rare visitor at Montreal, one shot out of a flock of semi-palmated sandpipers, September 17th, 1892. (*Wintle.*) Prior to 1886, only one specimen of this species had been recorded in Ontario. One specimen was taken on the 23rd of August, 1886, and two more on the 1st of September. These four are the only specimens known to the writer. (*McIlwraith.*) One specimen taken on the Rideau river close to Ottawa, Ont. (*Geo. White.*) Regular fall migrant at Toronto, Ont. (*J. H. Fleming.*) A regular though rare migrant in southwestern Ontario. (*W. Saunders.*)

This is a common migrant in Manitoba and westward to the Rocky mountains. Spreadborough saw two in a small marsh at Grand prairie, Atha., in 1903. It was first seen at Indian Head, Sask., on May 9th, 1892, was common by the 16th and disappeared on the 2nd of June. Rather rare in Alaska, but more common as we proceed to the north. Nelson found it at places along the Arctic coast, north of Kotzebue sound and at Point Barrow in August, 1881. Brooks found it abundant at Sumas lake, on the lower

Fraser river, B.C., in the fall, but rare in the spring, on account of the inundation of their feeding-grounds and took specimens at Quesnel during the 1901 migration. Spreadborough shot three out of a flock of ten on the 23rd August, 1893, on Stubbs island, west coast of Vancouver island. Mr. E. Anderson took it on Lake Okanagan, B.C., in October, 1897.

Breeding Notes.—On the 24th of June, 1864, a nest containing four eggs was found in the Barren Grounds in a swampy tract between two small lakes. It was composed of a few decayed leaves, placed in a small cavity in the ground shaded with grass. It is very uncommon in the north, though nests were discovered. (*Macfarlane.*) This species arrives at Point Barrow about May 30th. After the tundra becomes clear of snow it retreats from the beach and is especially to be looked for on dry grassy portions of the tundra. It is never very common and is always solitary or in pairs. The nest was always well hidden in the grass and never placed in marshy ground or on the bare black portions of the tundra; it consists merely of a slight depression in the ground, thinly lined with dried grass. All the eggs we found were obtained from the last week in June to the first of July, a trifle later than the other waders. (*Murdoch.*) There is no doubt that the breeding-ground of this species extends from the west side of Hudson bay along the Arctic coast to Point Barrow. Spreadborough saw three on a small island in James bay, Hudson bay, on June 16th, 1896, and believes they were breeding.

242. Least Sandpiper.

Actodromas minutilla (Vieill.) . Coues, 1861.

One shot in the spring of 1867 on Noursoak peninsula, Greenland. (*Arct. Man.*) One taken at Disco Fjord, 1878. (*Winge.*) A common summer migrant in the Hudson bay region and along the whole Atlantic coast, including the Gulf of St. Lawrence, and doubtless breeds in small numbers in eastern and northern Labrador as well as on Anticosti and the Magdalen islands. It is a common migrant in Quebec and Ontario, and extends as a migrant across the continent to the Pacific coast, where it was seen in large flocks on Stubbs island, west of Vancouver island, 1893. Spreadborough saw a few in 1903 on some of the lake shores in the Peace River district, Atha. It is also found in the interior of Alaska, and may

be said to be a bird of general distribution, although very little is known of its breeding habits. Mr. Dippie collected specimens at Reaburn, Man., on June 15th, 1893, and believes a few pairs breed there.

Breeding Notes.—Audubon, Vol. V., p. 282, states that he found the nest and eggs, July 20th, 1833, in Labrador. Turner believes that a few pairs breed at the mouth of the Koaksoak river, Ungava bay. Spreadborough believes it breeds on James bay and at Indian Head, Sask. Dr. Coues suspects that it breeds at Turtle mountain, on the boundary of Manitoba. The writer found young birds on Anticosti, near Southwest point, in August, 1883, and very young birds at the east end of the Cypress hills, Sask., on August 2nd, 1880. One nest was taken on Sable island in 1899 by Mr. Boutelier, superintendent of life-saving stations.

Quite common on Sable island, N.S., where it breeds regularly. (*W. Saunders.*) Breeding around Fullerton, Hudson bay. (*A. P. Low.*) First met with at Fort Churchill where adult birds accompanied by young were seen on the meadows, July 26th. (*Preble.*) Breeds sparingly by lakes in the Okanagan valley and in the Rocky mountains. (*Rhoads.*) At the southern end of Lake Marsh, Yukon, not far from where Six-mile river enters, the surrounding country is level and at high water the lake stretches far back through a dense growth of willows. At the time of our visit the retreating waters had left a belt of grass between these willows and its margin. Here on the evening of July 2nd I found three pairs of least sandpipers and after a long search I came upon a female surrounded by four downy young. (*Bishop.*)

This species was found breeding abundantly at Fort Anderson, on the borders of, as well as in, the Barren Grounds, and on the near Arctic coast. (*Macfarlane.*) I met with this species on the Magdalen islands, and was successful in finding its nest there on June 22nd, 1897. We were driving along the edge of the sand-hills, towards East cape, on that date. When passing a grassy flat near salt water, a bird of this species rose into the air. I hid myself, and soon had the satisfaction of seeing the bird alight in a dry place in the salt meadow. I at once walked almost to the nest, and the bird fluttered away from the four eggs at my feet. They lay with the pointed ends together in a small nest of dried grass, slightly

concealed. Incubation had progressed about a week. I noticed a small flock of these birds at the Magdalen islands on July 1st, 1897. They were running about, among bunches of sea-weed, feeding. It occurred to me these were possibly non-breeding birds, or else males, the females nesting in the neighbouring bog. (*Rev. C. J. Young.*) On June 13th, 1900, Mr. Day and I flushed a least sandpiper from her nest on the Magdalen islands. The nest was a mere hollow in the "barrens" just back from the edge of a slough, among sparse growth of coarse grass and moss, the structural part consisting of simply a few dry bayberry leaves. (*H. K. Job.*)

242.1 Long-toed Stint.

Acsptodromas damacensis (Horsf.) Stejn. 1883.

Asia, breeding toward Arctic coast; accidental on Otter island, Bering sea, Alaska. (*A. O. U. List.*) A single specimen was taken on Otter island by Mr. C. H. Townsend who says it was feeding in a shallow lake with other *Tringæ*.

XCIX. PELIDNA Cuvier. 1817.

243. Dunlin.

Pelidna alpina (Linn.) C. L. Brehm, 1831.

Bird of passage. Taken occasionally in Greenland. (*Winge.*) Accidental in eastern North America, west side of Hudson bay. (*A. O. U. List.*) Rare migrant in Nova Scotia. (*H. F. Tufts.*)

243*a*. Red-backed Sandpiper.

Pelidna alpina sakhalina. Vieill. 1816.

A rare migrant along the Atlantic coast but commoner in Quebec and Ontario. According to Seton it is tolerably common in Manitoba, but the writer has never seen it nor heard of its being seen west of that province. It is common in summer on Hudson bay and along the Arctic coast generally, especially in northern Alaska, where it breeds in great numbers, but never far from the sea. Both Brooks and Fannin speak of this species as being common on the British Columbia coast in spring and fall.

Breeding Notes.—This bird breeds plentifully on the Arctic coast. Its eggs are oil-green marked with irregular spots of liver-brown, of different sizes and shades, confluent at the obtuse end. (*Richardson.*) This species is common at Point Barrow, Alaska, and breeds abundantly, although the nest is exceedingly hard to find as the nesting birds are very wary and use every possible stratagem to mislead one when looking for the eggs. It arrives about the end of May. Some of them, perhaps, arrive paired, but the majority are pairing soon after their arrival, to judge by their actions. As the tundra gradually clears of snow they become more scattered and spread further inland, deserting the shores of the beach lagoons, although they hardly confine themselves as much to the dry portions of the tundra as the Baird sandpiper is in the habit of doing. The nest, which is like that of all the rest of the waders, is always placed in the grass, sometimes in dry and sometimes in rather swampy places, but never like the phalarope's, on the black tundra or on the isthmuses between the ponds. Both parents share in the work of incubation, though we happened to obtain more males than females with the eggs. (*Murdoch.*)

In early seasons the first of these birds reach the Yukon mouth and shores of Norton sound by the 10th of May, and by the 25th of that month they are in full force. They arrive in full breeding plumage, and are generally in small flocks, which soon break up and the birds scatter in twos and threes over the moss and grass-grown tundra to pair and attend to their summer duties. They nest from the first of June to the first of July, and in 1877, I secured a set of four fresh eggs on the 3rd of the latter month. They generally choose some dry knoll, or other slight elevation, overlooking the neighbouring lakes and pools. Here, upon a bed of last year's grasses, but without the trouble of arranging a formal nest, the female deposits three or four large eggs of a pale greenish varying to pale brownish clay colour, with dull chocolate and umber-brown spots and blotches. (*Nelson.*)

C. **EROLIA** Vieillot. 1816.

244. Curlew Sandpiper.

Erolia ferruginea (Brünn.) A.O.U. Committee. 1903.

Occasional in eastern North America and Alaska.

Very rare in Nova Scotia. One purchased on Halifax market. (*Downs.*) Seen at Halifax, N.S. in October, 1864. (*Gilpin.*) I had the good fortune to capture a male in full breeding plumage, the only one seen, at Point Barrow, on June 6th, 1883. It was in company with a good sized flock of *Tringa maculata*. (*Murdoch.*)

Mr. J. H. Fleming of Toronto, Ontario writes that Mr. Ernest T. Seton identified a specimen in the old Toronto Gun Club as this species. The bird was taken at Toronto.

CI. **EURYNORHYNCHUS** Nilsson. 1821.

245. Spoon-bill Sandpiper.

Eurynorhynchus pygmæus (Linn.) Pearson. 1836.

Accidental on the coast of Alaska. The presence of this little sandpiper in the list of birds of Alaska is due to the capture of a single specimen at Chloris peninsula, during the summer of 1849 by the captain of the British ship *Plover*. Chloris peninsula is a sandy spit which extends out into the head of Kotzebue sound and is covered with pools of water. (*Nelson.*)

CII. **EREUNETES** Illiger. 1811.

246. Semipalmated Sandpiper.

Ereunetes pusillus (Linn.) Cass. 1860.

A common fall migrant along the whole Atlantic coast and Gulf of St. Lawrence. In Quebec and Ontario it is equally abundant as a migrant, and also in Manitoba and westward, at least as far as the Rocky mountains.

In the spring of 1892 Mr. W. Spreadborough found the first birds at Indian Head, Sask., on May 16th. He remained there until July 1st and they were still there, so that he believes they breed

there. On May 25th, 1895, a pair was seen at a pool on the prairie near Old Wives lake and later, on June 6th, a large number was seen and a few specimens taken at Twelve-mile lake, near Wood mountain, Sask.

One male taken at Ducks, near Kamloops, B.C., August 18th, 1889, by Clark P. Streator. Not uncommon in the lower Fraser valley. Taken at Quesnel, B. C., during migration. (*Brooks.*) Thirteen specimens were taken at Point Barrow and Port Clarence, Alaska, in 1897. (*McIlhenny.*) I saw a single bird on the Pribilof islands that had just arrived from the south. (*Palmer.*)

Their great numbers in the east during the migrations and their late and dilatory spring movement in the west, point to their chief breeding grounds being on the southern and western shores of Hudson bay, between James bay and York Factory, as here there is a low marshy shore just suited for nesting. The Severn, where Hutchins found them breeding, is in this district. Westward of Hudson bay it extends to Point Barrow in Alaska, where Murdoch says it arrives in large flocks in July and leaves in August. All came from the east and the specimens taken were young birds.

Breeding Notes.—Occurs sparingly at the mouth of the Koaksoak river, Ungava bay, Labrador, and from its actions indicated breeding. Audubon, Vol. V., 278, states that he found them dispersed in pairs and having nests early in June in Labrador. (*Turner.*) Mr. Hutchins in 1770 writes as follows:—"This species arrives at Severn river (about 150 miles southeast of York Factory) by the middle of May in large flocks, builds a nest early in June of withered grass, and lays four or five black and white spotted eggs. Towards the autumn it has a chirruping note, and in September it retires to the southward." (*Richardson.*) Common on the Labrador coast, breeding locally. I took downy young on Seal island. (*Bigelow.*) Adults and young were at Fort Churchill, Hudson bay, July 25th. (*Preble.*) Common breeder in all the northern parts of the Hudson Bay region. (*A. P. Low.*) We saw a few at Hay lake, May 29th 1905, Bishop collected a female that would soon have laid at Big Stick lake, Sask., June 14th, 1906. (*A. C. Bent.*) Fairly abundant in the Barren Grounds, but more so on the shores of Franklin bay, where a number of specimens with eggs were procured. (*Macfarlane.*)

247. Western Semipalmated Sandpiper.

Ereunetes occidentalis LAWR. 1864.

A male taken at Ducks, near Kamloops, B.C., August 22nd, 1889. (*Streator.*) An abundant resident; it is found throughout the year at Victoria, Vancouver island. (*Fannin.*) Abundant in the fall at Sumas lake, in the lower Fraser valley. (*Brooks.*) A small sandpiper supposed to be this species was seen on a beach in Cumshewa inlet, Queen Charlotte islands. Mr. Keen reports its occurrence at Massett. (*Osgood.*) As soon as the snow disappears on the low ground about Norton sound, Alaska, these little birds arrive on the shore of Bering sea, in the vicinity of St. Michael and the Yukon mouth. It frequents the Arctic coasts of Alaska in addition to being found throughout the interior along streams where suitable flats occur. (*Nelson.*) Abundant on all the Aleutian islands, and at St. Michael outnumbers all other waders. (*Turner.*) This was the common shore bird seen at Homer, Alaska. (*Figgins.*)

BREEDING NOTES.—This species arrives at St. Michael by the middle of May. About the first of June it begins to build its nest among the dry mosses found on the low grounds. The nest is only a slight depression in the moss, containing a few feathers. Four or five eggs are laid. The male assists in incubating, as the first specimen which I obtained fluttered from the nest as if it were wounded. His fluttering wings, low piping note, and limping gait caused me to detect the nest almost at my feet. (*Turner.*) By the 1st of June, and earlier in some seasons, they have eggs, and in one instance young were found as early as June 7th. Their nests are usually on the drier part of the tundra, generally on a mossy hummock or slight swell. A sheltering bunch of dwarf willow or a few grass stems, in a tuft, form a favourite cover. The eggs are sometimes placed on a thin layer of dead grass-stems, or willow leaves, loosely arranged, but very commonly the mat of dry grass or willow leaves afforded by the spot chosen serves as the nest without special arrangement. (*Nelson.*)

CIII. CALIDRIS CUVIER. 1799–1800.

248. Sanderling.

Calidris arenaria (LINN.) LEACH. 1816.

Scarce, and said not to breed further south in Greenland than lat. 68°, but the young have been obtained at Godthaab; breeds

at Sabine island and Parry islands. (*Arct. Man.*) Winge reports it from several localities in Greenland. It is said to be a much commoner migrant in the autumn than in the spring on the whole Atlantic coast, and the Gulf of St. Lawrence, and along rivers and lakes in Quebec and Ontario. It is also a common migrant in Manitoba. It was found there as late as June 12th, 1881, on the shore of Lake Manitoba by the writer, and in the autumn as early as the beginning of August by Nash *fide* Seton. It doubtless breeds on Lake Manitoba or Lake Winnipegosis in small numbers. It has seldom been noticed by us further west than Indian Head, Sask., and it was rare there in the spring of 1892, and at Thirty-mile spring, near Wood mountain, Sask., June 3rd, 1895. Bent reports it as abundant near Hay lake, Sask., May 29th, 1905, and Bishop took three at Big Stick lake, Sask., July 19th. Spreadborough saw three at Lesser Slave lake, Atha., Atkinson noted it in considerable numbers in August 1906 between Saskatoon, Sask., and Edmonton, Alta.

It occurs all around Hudson bay and along the Arctic coast, being recorded by Ross, Richardson and Macfarlane. Neither Nelson, Murdoch nor Turner found it in Alaska, but Dall says it is very common at Nulato,and on the Yukon to the sea. Bishop saw three at St.Michael and Figgins says that it is rather common but irregular during migrations at Homer, Alaska. Specimens have been taken at Sitka, Alaska, and at Port Simpson, British Columbia. Brooks took it at Quesnel, B.C., in 1901 during migrations but says it is rare in the lower valley of the Fraser.

Breeding Notes.—This bird breeds on the coast of Hudson bay as low as the 55th parallel. Mr. Hutchins informs us that it makes its nest in the marshes rudely of grass, and lays four dusky-coloured eggs spotted with black, incubation commencing in the middle of June. It feeds on marine insects. (*Richardson.*) On June 29th, 1863, we discovered a nest of this species (the only one at the time known to naturalists) on the Barren Grounds, about ten miles west of Franklin bay. The nest was composed of withered hay and leaves placed in a small depression in the ground. It contained four eggs which were quite fresh. (*Macfarlane.*) Parry found them breeding on the North Georgian islands, and they undoubtedly breed along the barren Arctic coast east of Point Barrow. (*Nelson*). Mr. W. Spreadborough observed a pair on a small island in James

bay on the 16th of June, 1896, which were doubtless breeding. As the mouth of the Severn river, where Hutchins found it breeding, is 300 miles to the northwest, this bird probably breeds on the west and south shores of Hudson bay and on some of the larger interior lakes. Found breeding at Fullerton, Hudson bay by Low.

CIV. **LIMOSA** Brisson. 1760.

249. Marbled Godwit.

Limosa fedoa (Linn.) Sabine. 1823.

Recorded from several Hudson Bay localities. A periodical visitor in Newfoundland, especially in the autumn; very rare in Nova Scotia and New Brunswick; rare in Quebec and Ontario, and always as a migrant. It is a common summer resident from eastern Manitoba to the Rocky mountains, seeming to prefer the margins of brackish lakes and pools. It is more plentiful north of the Canadian Pacific railway than south of it, and is particularly abundant on the plains south of Battleford, Sask.

First seen at Indian Head, Sask., April 29th, 1892; after this they kept arriving up to June 24th, when I saw a number in a large marsh. They appeared to be breeding, but I failed to find any nests. (*Spreadborough.*) Fannin reports this bird from the Similkameen district, in southern British Columbia, and says it breeds east of the coast range. McIlhenny obtained one bird of the year at Point Barrow, Alaska, August 26th, 1897.

Breeding Notes.—Breeding on both coasts of James bay in 1904. (*Spreadborough.*) Very common about all the lakes we visited in Saskatchewan. Breeding in the meadows. (*A. C. Bent.*) Breeds regularly in all the larger marshes in Manitoba and was noted in 1906 in similar localities as far west as Edmonton. (*Atkinson.*) Although this bird is so plentiful on the prairies its eggs are seldom taken on account of the bird being so wary and the male bird being always on the alert to warn the female. On June 6th, 1901, while driving to Saltcoats marsh in northern Saskatchewan we flushed a bird off its nest containing four eggs. The nest was a mere hollow in the ground lined with bits of dry grass. (*Raine.*)

250. Pacific Godwit.

Limosa lapponica baueri (NAUM.) STEJN. 1885.

This bird was found by Dall to be plentiful at the Yukon mouth; found by me common at Unalaska and St. Michael in the early part of May. (*Nelson.*) Met with as a migrant on the Aleutian islands when on their way to the north. It doubtless breeds at St. Michael, but I did not obtain eggs. (*Turner.*) This species only occurs at Point Barrow as a straggler after the breeding season. (*Murdoch.*) A fairly abundant migrant on the Pribilof islands, Bering sea. (*Palmer.*)

BREEDING NOTES.—This species frequents open grassy parts of the country about St. Michael, and is quick to protest against any invasion of its territory. Its nest was not found, but Dall informs us that it lays two light olivaceous spotted eggs in a rounded depression in a sedge tussock, lined with dry grass. (*Nelson.*)

251. Hudsonian Godwit.

Limosa hæmastica (LINN.) COUES. 1874.

This species is a common migrant in spring and fall in Newfoundland; an autumn migrant in Nova Scotia; occasionally in both spring and fall in New Brunswick; rather rare in Quebec but more so in Ontario. Its line of migration is from the Atlantic coast to Hudson bay as it is frequently taken at Churchill and York Factory. It is rare in Manitoba and Saskatchewan and none remain to breed. It was first seen by Spreadborough at Indian Head, Sask., on May 11th, 1892, afterwards a few stragglers passed north but none remained. Richardson says this species breeds abundantly on the Barren Grounds and on the shores of the Arctic sea and migrates southward in the autumn.

One single specimen from Nulato and two from the Yukon mouth are all the records we have of the occurrence of this species in Bering sea. A few have been taken in other parts of Alaska but only as stragglers. (*Nelson.*) Two specimens were obtained at Point Barrow, Alaska, by McIlhenney, July 14th, 1898.

BREEDING NOTES.—This species is not very common on the Barren Grounds, although several nests were taken near the post

on the lower Anderson river. The nests were all mere depressions or small holes scooped in the earth, thinly lined with decayed leaves, and in almost every instance they contained four eggs. (*Macfarline.*) Not rare on Southampton island, Hudson bay and breeding there. (*A. P. Low.*) In large flocks along the west coast of James bay and apparently breeding north of Cape Henrietta Maria. (*Spreadborough.*)

252. Black-tailed Godwit.

Limosa limosa (LINN.) RIDGW. 1885.

Occasional in Greenland. (*Winge.*)

CV. TOTANUS BECHSTEIN. 1803.

254. Greater Yellow-legs.

Totanus melanoleucus (GMEL.) VIEILL. 1816.

This species is a common migrant in both spring and fall along the whole Atlantic coast. And is abundant on both shores of James bay and north to Fort Churchill. In the Gulf of St. Lawrence and on the Labrador coast it breeds in some numbers. In Quebec and Ontario it is a common migrant, but there are no records of its breeding. It is an abundant migrant in spring, late summer and fall in Manitoba and Saskatchewan, but not very common to the west of that province, although taken all across the continent. It was found by Spreadborough to be common on the shores of nearly all lakes between Lesser Slave lake and Peace River Landing, Atha., and Ross found it as far north as Fort Simpson, on the Mackenzie, but neither Macfarlane nor Richardson found it near the Arctic sea. A few specimens have been taken on the Pacific coast at Sitka.

An abundant resident along the British Columbia coast in winter; I found it breeding in the summer of 1891 around the lakes at Clinton, B.C. (*Fannin.*) Abundant in the lower Fraser valley; probably breeds. (*Brooks.*) Saw one at Penticton, B.C. (*Spreadborough.*)Two were seen and one of them taken on the beach at Skidegate, Queen Charlotte islands, B.C., July 17th, 1899. Taken at Fort Kenai, Alaska, by Bischoff May 6th, 1869. A male bird

was taken at Iliamma village, Alaska, July 14th, 1900. A few days later we found a pair in possession of a small pond on the portage between lakes Iliamma and Clark. During a great part of each of several trips that we made back and forth, they accompanied us, making noisy and belligerent demonstrations. The long-legged birds, perched on the topmost twigs of spruce trees, looked very much out of place. The species was not seen again until Swan lake was reached, where one was seen frequently, standing in a few inches of water at the edge of a riffle in a small stream and watching the water intently. Another was seen on the Malchatna river, September 3rd, 1900. (*Osgood.*)

Breeding Notes.—Audubon, Vol. V., 319, states he found this species breeding in June in Labrador. (*Turner.*) Found in abundance on Anticosti, where it was evidently breeding; about the mouth of the Mingan river it is said to breed regularly. (*Brewster.*) Resident on Stubbs island, west coast of Vancouver island. Breeding in wet meadows among the woods north of the prairie, and in the foot-hills of the Rocky mountains. I have seen young, scarcely able to fly, in July. When the old birds are disturbed they will often settle in trees. (*Spreadborough.*) It is singular that the eggs of this bird remained so long undiscovered. The first set of eggs taken are in my collection. They were found in the Little Red Deer River region, Alberta on May 5th, 1903. The nest was a depression in the ground not far from water. These birds perch with ease on tree tops. (*Raine.*) Breeding about inland lakes as far south as Clinton, B.C. At this season both sexes stand sentinel on the tops of trees in the vicinity of the nest, rarely alighting on the ground in the presence of an intruder. The newly fledged young often follow the example of their parents in this respect. (*Rhoads.*) Breeding in many localities in the Cariboo district, B.C., but all efforts to find the nest were unsuccessful, owing to the extreme watchfulness of the male bird which kept constant watch from the extreme summit of some tall spruce. (*Brooks.*)

255. **Lesser Yellow-legs.**

Totanus flavipes (Gmel.) Vieill. 1816.

One sent from Greenland to Copenhagen in 1854. (*Arct. Man.*) This is a common spring and autumn migrant in Nova Scotia, New Brunswick, Quebec and Ontario, but rarer than the preceding.

Reeks says it is a summer resident in Newfoundland, arriving in May, and leaving in October. Spreadborough observed a number about a small salt marsh on the shore of James bay on June 15th, 1896, and was sure they were breeding. He saw them in 1904 on both sides of James bay, young flying early in July. They have been observed on Hudson bay as far north as Fort Churchill, and, no doubt, breed there. Mr. J.M. Macoun saw a pair, evidently breeding, on Lake Mistassini, northern Quebec, in 1885. This species is a common migrant in Manitoba and westward through the whole prairie region and is found in the Rocky mountains and throughout British Columbia as a migrant, though Fannin found it at Burrard inlet all summer. Spreadborough saw it first at Indian Head, Sask., on April 25th, 1892. By May 1st it was common. A few remained to breed as they were seen up to July when he left. Richardson says:—"This is a very common bird in the Northwest Territories, and is seen either solitary or in pairs on the banks of every river, lake and marsh up to the northern extremity of the continent." Previous to going south from Hudson bay they gather in small flocks on the shores.

On the lower Yukon, in Alaska, this bird is not common, and is very rare along the shores of Bering sea. In the upper Yukon region it is, however, more or less common, and skins procured at Fort Reliance were brought to me. Specimens have been taken at Sitka and Kadiak island, and Mr. Lockhart secured its eggs at Fort Yukon. (*Nelson.*) Bishop saw two birds on Six-mile river close to Lake Marsh, Yukon, and two on Lake Marsh. All were breeding birds. Palmer saw one on St. Paul island, Bering sea.

Breeding Notes.—This is probably the most abundant and certainly the noisiest of all the waders met with at Fort Anderson, in the Barren Grounds. Nests were taken at Fort Anderson, on the lower Anderson, in the wooded country, and along the rivers which flow through the Barren Grounds. (*Macfarlane.*) Found a nest on June 8th, 1906, in northern Alberta. It was made on high ground overlooking a muskeg and consisted of a depression in the ground lined with dry grass. (*Raine.*) Mr. Spreadborough thought a few pairs bred at Indian Head, Sask., in July, 1892; and in June, 1897, at Edmonton, in Alberta, he saw them often sitting in dead poplars and upon stubs on the borders of wet meadows, but he

could never find any nests. Mr. Dippie writes me that he believes they were breeding at Reaburn, Man., in June, 1893, and at Buffalo lake, Alberta, in July, 1896. On the 15th June, 1897, about 30 miles from Calgary, Alberta, the writer came upon a small flock at a grassy pond in the foothills of the Rocky mountains, and from the actions of the birds it seems certain they were breeding, but no nests were found.

CVI. **HELODROMAS** KAUP. 1829.

256. Solitary Sandpiper.

Helodromas solitarius (WILS.) SHARPE. 1896.

A migrant in Newfoundland and Nova Scotia, though perhaps breeding in Nova Scotia.

Common summer resident in New Brunswick. Mr. Banks took a nest at Lily lake in June, 1880. (*Chamberlain.*) The writer saw several pairs, which were evidently breeding, in July, 1888, along Black River, Prince Edward island. Brittain and Cox found this bird in the valley of the Restigouche, N.B., in summer, evidently breeding. Mr. J. M. Macoun found it a common summer resident at Lake Mistassini, northern Quebec, in 1885. In other parts of Quebec it is reported as a migrant. Spreadborough reports seeing one individual on the east coast of James bay. It is recorded as a summer resident at Ottawa, Ont. Regular migrant at Toronto, Ont., local and not very common. Recorded by many observers in eastern Ontario and northwesterly across the province.

In Manitoba, Hine and Nash—both close observers—state that this bird breeds there and is abundant. Mr Spreadborough only saw a straggler at Indian Head, Sask., in the spring of 1892. In the spring of 1897, he saw numbers at Edmonton, Alta., on the borders of bogs, and as they took to the trees he believed they were breeding. He also found them breeding at Jasper lake, Alta., in July, 1898, and between Lesser Slave lake and Peace river Landing, in 1903. While making a traverse of the northern part of Labrador on July, 24th, 1896, he shot a specimen from the top of a spruce tree near a peat bog close to Seal lake; none were seen after this. Bernard Ross says that it extends as far north as Fort Simpson on the Mackenzie river. Macfarlane does not mention it, but Sir John Richardson says it has been shot as far north as lat. 64° 30′.

Nelson, in his *Birds of Alaska*, says that a few skins of this species were brought to him from Anvik and Nulato, both on the lower Yukon, and their occurrence here involves their occurrence on the upper Yukon. Fannin, Spreadborough and Brooks record it as being tolerably common in British Columbia.

Breeding Notes.—We have very little actual knowledge of the breeding habits of this bird other than that it is solitary in its habits and has a tendency to take to trees when in proximity to its nest. Hutchins found the nest on the shores of Hudson bay; and according to Richardson their eggs were deposited on the beach and no nest formed. This tallies exactly with the conditions under which its nest was found near Castleton, Vermont, by Mr. J. Richardson, in May, 1878. In the latter case the single egg was placed in a small depression in the ground, without any attempt at a nest. Knowing as we do now that this bird nests usually, if not always, in trees and bushes the above references must be considered doubtful.

In July, 1881, the writer, when leading an exploring expedition up the Red Deer river, which empties in to the head of Lake Winnepegosis, came upon a pair of these birds on a point of bare rocks which jutted into the stream, and shot one. On the report of the gun, a young bird—still in the down—jumped up and ran, but was soon caught. On July 6th, 1896, while collecting plants in a swamp near Prince Albert, on the Saskatchewan, he saw a bird of this species sitting on a small birch, but could neither raise the other bird nor find the nest. The next day he visited the same place and found two birds sitting on trees, but failed to find the nest.

On July 19th, 1895, I came across a pair near Calgary, Alberta, which undoubtedly had young in the grass; one bird kept flying within a few yards of me as long as I stayed in a certain locality. I also observed this species in summer at Buffalo lake, Alta. It was also seen at Manitoba House, Man., at the end of June, 1895. (*Dippe.*) What seems to be the first clear breeding record of this species for Ottawa and its immediate vicinity was made by Mr. Edward White, who last July saw the tiny and downy young of this species two or three days from the egg, together with their agitated parents. This was on the Ottawa river about ten miles from Ottawa. (*Rev. G. Eifrig.*) I am also satisfied that it breeds

early in eastern Ontario as the following records shows: On August 1st, 1896, I saw young ones near Graham lake, Leeds county, Ont., on June 25th, 1899, I saw a single bird rise from a ditch at Lansdowne, Ont., also two others near Lansdowne in June. In 1904, on the 24th August, I saw six of these birds, four young ones and the two old ones, about a mile north of Madoc, Ont. They rose from a muddy pool by the roadside and all alighted on the fence rail. They continued about the same place for more than a fortnight, and I felt satisfied had been hatched near by. (*Rev. C. J. Young.*)

The uncertainty that has existed for so long concerning the nesting of the solitary sandpiper seems to have been at last dispelled chiefly through the work of Mr. Walter Raine and his collectors. In Volume XVIII, pp. 135-138 of *The Ottawa Naturalist,* he describes at length the taking of the first three clutches of the eggs of this bird. The following is his description of the nests and eggs.

Set. 1—Taken in northern Alberta, June 16th, 1903; four eggs advanced in incubation; collector, Evan Thomson. This set was found in an old nest of the American robin, built 15 feet up in a tamarack tree, that was growing in the middle of a large muskeg dotted with tamaracks; the bird was flushed off the nest but unfortunately not secured. The eggs are exceedingly handsome and very different from the eggs of any other American sandpiper. The ground colour is pale greenish-white, heavily blotched and spotted, chiefly at the larger ends, with vandyke brown, chestnut brown and purplish grey; the average size of these four eggs is 1.36 x.98, and they are very large for the size of the bird. Set II—Northern Alberta, June 9th, 1904; four eggs found in the nest of a bronzed grackle, built in a low tree; these eggs were unfortunately lost owing to Mr. Thompson first blowing them and then leaving the shells in the nest until he returned with his gun to secure the parent bird, but on his return on the following day, no trace of of the eggs was to be found, the bird evidently had carried them away. Set III—Northern Alberta, June 24th, 1904; four eggs found in the nest of a cedar wax-wing, which was built in a smal spruce tree growing in a swamp, the nest being about five feet from, the water, and Mr. Thompson was fortunate in shooting the parent bird as she flew from the nest, and thus identification is very complete, and established the fact once for all that the solitary sand-

piper does not lay its eggs in a nest on the ground like other sandpipers, but takes possession of the nests of other birds, built in trees, just the same as its old world representative, the green sandpiper, is known to do.

Mr. Raine sends the following note on the nests found by him in 1906: "During June, 1906, we were fortunate in finding three nests of this bird in northern Alberta. The first was on June 5th. It contained four eggs laid in the old nest of a Canada jay that was built in a small spruce tree five feet from the ground. On June 8th, 1906, we found another set of four eggs laid in the nest of a Brewer blackbird about fifteen feet from the ground, and again on June 11th we found another set of four eggs laid in an old king, bird's nest at least twenty feet up in a poplar tree. So far, I have had nine clutches of eggs of this bird and all were laid in old nests of other birds built in trees, and besides the above named nests, this bird lays its eggs in that of the American robin, cedar waxwing and bronzed grackle."

Mr. P. Garrett, of Didsbury, Alta., found a nest of the solitary sandpiper in a spruce tree at Fallen Timber creek, Alta., in an old nest of the Bohemian waxwing. The spruce was about twelve feet high and the nest about four and a half feet from the ground. The tree was near a slough, watered by springs flowing out slowly into the river. The nest contained three eggs.

256*a*. Cinnamon Solitary Sandpiper.

Helodromas solitarius cinnamomeus BREWSTER. 1890.

Summer resident in the interior of British Columbia; at Ducks near Kamloops, I saw individuals that were not yet able to fly, and must have been hatched in the vicinity. (*Streator.*) Tolerably common migrant in Saskatchewan, June 30th to July 30th, 1906. (*A. C. Bent.*) The common form near Didsbury, Alta. Only one specimen of typical *solitarius* seen. (*P. Garrett.*) Taken at Chilliwack and Okanagan, B.C., by Mr. A. C. Brooks. (*Kermode.*) Seen at Log Cabin, B.C., and Lake Marsh and Little Salmon river, Yukon. (*Bishop.*)

It is probable that all the British Columbia and Alaska references under *solitarius* and many of those from the Northwest Territories should go here.

257. Green Sandpiper.

Helodromas ochropus (LINN.) KAUP. 1829.

An individual of this species exists among a collection of birds from the Northwest Territories, sent to the British museum by the Hudson Bay Company. Pennant says he also observed it among birds collected by Mr. Kuckan in North America. (*Richardson.*) Accidental in Nova Scotia. (*A. O. U. List.*)

CVII. SYMPHEMIA RAFINESQUE. 1819.

258. Willet.

Symphemia semipalmata (GMEL.) HARTL. 1845.

A common spring and autumn migrant in Newfoundland. (*Reeks.*) Common in summer and fall in Nova Scotia. Breeds at Port Petpiswick. (*Downs.*) Rather common at Grand Manan, New Brunswick. (*Herrick.*) Very little is known of this species in Ontario. On two occasions I have seen it brought in from the Hamilton marsh by gunners, but I never saw it alive. (*McIlwraith.*)

258*a*. Western Willet.

Symphemia semipalmata inornata BREWST. 1887.

This is a common species in the prairie region west of Manitoba. It frequents the margins of saline ponds and brackish marshes from western Manitoba to the Rocky mountains, and from lat. 49° to 56°. It breeds throughout its range.

Rare migrant at Toronto, Ont. I can find only five specimens in local collections. A careful comparison proves them to belong to the western form. (*J. H. Fleming.*) A rare migrant in Manitoba. In 1906 I first noticed it as a breeding species west of Saltcoats, Sask. (*Atkinson.*)

One specimen taken at Clover point, Victoria, Vancouver island, August 8th, 1898, by Mr. J. Henley. (*Fannin.*)

While in a meadow near Lake Marsh, Yukon, I heard a willet whistle several times its unmistakable "pill-willet", but failed to see the bird. (*Bishop.*)

BREEDING NOTES.—First seen at Indian Head, Sask., May 6th, 1892. It was quite common a few days later, and spread itself through the marshes where it breeds in considerable numbers; breeding also in great profusion in the marshes around Crane lake in June, 1894. (*Spreadborough.*) On May 23rd, 1883, on the alkali plain, north of the land office at Turtle mountain, I started a willet from her nest, which was placed in a slight hollow, shaded on one side by the skull of a buffalo and on the other by a tuft of grass. It contained four eggs, ground colour, dark olive-brown, with heavy, round, dark spots of brown and purple, evenly distributed without any approach to a rind (*sic*) about the large end. (*E. T. Seton.*) This species breeds in both Manitoba and Alberta. In the latter province, at Buffalo lake, I found the young in the grass on July 4th, 1895. (*Dippie.*)

CVIII. **HETERACTITIS** STEJNGER. 1884.

259. Wandering Tatler.

Heteractitis incanus (GMEL.) STEJN. 1884.

This bird has been noted over the entire Pacific north of the equator. It is met with sparingly along the coast of Alaska, and seems to prefer the rock-bound portions. From the records obtained it must breed nearly, if not quite, to the Arctic circle. (*Nelson.*) This species was found to be a rare bird in that part of Alaska visited by me. The natives report that they breed on Whale island, near St. Michael, and from their actions I believe this to be true. (*Turner.*) Noted at Skagway, St. Michael and Unalaska, Alaska. (*Bishop.*) A pair taken and two others seen on a rocky islet about 28 miles south of Sitka, Alaska. One adult male, taken at Orca, Prince William sound, Alaska. (*Grinnell.*) Only one specimen seen at Homer, Alaska. (*J. D. Figgins.*) A migrant on the Pribilof islands, Bering sea. (*Palmer.*)

Mr. Fannin found this species common along the whole coast of British Columbia, where it breeds and is tolerably common. The writer obtained both young and old birds on rocky ledges in Barclay sound, on the west coast of Vancouver island, in August, 1887.

CIX. **PAVONCELLA** LEACH. 1816.

260. Ruff.

Pavoncella pugnax (LINN.) LEACH. 1816.

Accidental in New Brunswick. (*Chamberlain.*) This species was killed on Toronto island in the spring of 1882, and this is the only instance I know of its occurrence in Ontario. (*McIlwraith.*)

CX. **BARTRAMIA** LESSON. 1831.

261. Bartramian Sandpiper.

Bartramia longicauda (BECHST.) BONAP. 1857.

Occasionally met with in Newfoundland in the spring migrations. Casual in Nova Scotia and New Brunswick, and a rare migrant in Quebec. Preble saw several both north and south of Cape Eskimo, Hudson bay.

The only point in southern Ontario at which I have heard of these birds being seen lately is on the Lake Erie shore not far from Dunnville, where Dr. MacCallum is aware of at least two pairs having raised their broods during the two past summers—1893-94. (*McIlwraith.*) Said to have been an abundant migrant at Toronto, Ont. Now rare. (*J. H. Fleming.*) Near Renfrew, north of Kingston, Ont., this species was noted in the fields. I have now traced this bird in eastern Ontario over a region of nearly 100 miles square. (*Dr. C. K. Clarke.*) Rare and irregular, but is a summer resident throughout the country near London, Ont. (*W. Saunders.*)

This species is an abundant summer resident in the whole prairie region extending from the Lake of the Woods to the Rocky mountains, and from the International Boundary to lat. 54° in the eastern part of the region, and northwesterly to far north of the open prairie of the Peace River district. According to Fannin one specimen was taken at Comox, Vancouver island, August 28th, 1895, by Mr. W. B. Anderson. Its occurrence in Alaska is accounted for by its northwest extension on Peace river. Only a few specimens, taken at Fort Yukon, are recorded from Alaska.

Saw one at Sidley, east of Osoyoos lake, B.C., May 25th, 1905. (*Spreadborough.*) Frequently seen in both spring and autumn migrations and taken at Quesnel and 150-mile House, Cariboo district, B.C., in 1901. (*Brooks.*)

BREEDING NOTES.—For some years past I have seen a few pairs of these birds every year in the neighbourhood of Kingston, Ont. Favourite resorts are Simcoe island and Amherst island, Lake Ontario, as well as eastward. A few sets of eggs are found yearly in the month of May; in June, 1894, a pair hatched out a brood in a pasture field near Lansdowne station, on the Grand Trunk railway. A dry rough field is its favourite abode; in this respect it differs from other members of the family. It makes a nest of withered grass, which it partially conceals amidst the dry growth of last year, and lays four eggs, resembling the woodcock's, but larger. (*Rev. C. J. Young.*) I have part of a set of eggs taken by the late Robt. Anderson, at Aylmer, Ont., and have myself seen the birds in spring, summer and early fall in the London district, the summer birds being undoubtedly residents. Mr. Roger Hedley, of Dunrief, near London, knows of this species summering at least twice in the last eight years near that place. (*W. Saunders.*) Its breeding centre is in western Manitoba and eastern Saskatchewan. This species is quite rare in western Saskatchewan and southern Alberta, and prefers well grassed prairie to that with a thin sod and little water.

CXI. **TRYNGITES** CABANIS. 1856.

262. **Buff-breasted Sandpiper.**

Tryngites subruficollis (VIEILL.) RIDGW. 1885.

This is a migrant along the whole Altantic coast and in the Gulf of St. Lawrence, as well as along the river itself. Preble saw it on the higher parts of the tundra north of Cape Eskimo, Hudson bay, and also below Cape Churchill.

Regular fall migrant at Toronto, Ont., but rare. (*J. H. Fleming.*) One specimen shot at Templeton, Que. (*Geo. White.*) In the first edition of this Catalogue the finding of the nest of this bird was credited to Dr. MacCallum. Later investigation proved this nest to be that of the Wilson Phalarope. See addendum.

Seton says it is a rare migrant in Manitoba and no specimens have been observed by the writer west of that province. On the Mackenzie, Bernard Ross reports this bird to be rare, while on the Barren Grounds to the northeast, Macfarlane says it is common.

Murdoch found it common at Point Barrow, while Nelson saw only a few specimens at the Yukon mouth. On the other hand, Mr. Fannin reports it as tolerably common throughout British Columbia and also a resident. Mr. Brooks says it is a rare migrant in the lower Fraser valley in the autumn.

Breeding Notes.—This species is common on the Arctic coast and on the Barren Grounds east of Horton river. Between the 26th June and the 9th July, upwards of twenty sets of eggs were secured, and there were four in every nest, which was a mere depression in the soil, scantily lined with a few withered leaves and dried grasses. When the nest was approached, the female usually made a low flight to a short distance. (*Macfarlane.*) This is an abundant summer resident at Point Barrow, and was more plentiful in the season of 1883 than it was the year before. They arrived in both seasons in a body about the same time (June 6th to 8th), and were first seen on the dry banks below the village feeding greedily on the flies and beetles, which were out sunning themselves. By the middle of June they had spread pretty well over the dryer parts of the tundra, but always confined themselves to high and dry banks, or what we called the black tundra. The eggs, as might be inferred from their colours, are laid in the latter locality, as a rule, where they harmonize very well with the black and white ground and moss. Like the rest of the waders, this bird builds no nest, but deposits the four eggs, small end down, in a shallow depression in the ground lined with moss. Four is the usual number of eggs in a complete set, though we collected one set with five. (*Murdoch.*) I have a set of four eggs taken on Herschell island, June 18th, 1902, by Rev. C. E. Whittaker. The nest was simply a hollow in the moss. The bird was secured to prove identity. (*Raine.*)

CXII. **ACTITIS** Illiger. 1811.

263. Spotted Sandpiper.

Actitis macularia (Linn.) Naumann. 1836.

This is a common species in Labrador, Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario. In all these provinces it breeds, either by the sea, shores of lakes or banks of rivers, but never in colonies. Seldom more than one pair

is found in the same place. Saunders reports it as now abundant on Sable island, though rare there a few years ago.

This species is found throughout the region as far north at least as Fort Churchill. It was not seen on the shores of Hudson bay, but a specimen was collected on the Churchill river, near Fort Churchill. (*Preble.*) Common from Missinabi, Ont., to Cape Henrietta Maria, Hudson bay. (*Spreadborough.*)

From Manitoba to the Pacific it is found breeding in suitable situations, both in the mountains and on the plains. Spreadborough reports it to be common in the Peace River district and nesting in many parts of British Columbia. According to Ross and Macfarlane, it extends almost to the Arctic sea, being common on the Barren Grounds and in the Mackenzie River valley. Figgins and Anderson found it common and breeding on Sheep creek, Kenai peninsula, Alaska. Bishop records it from many places in the interior of Alaska and the Yukon district. Reported from the Yukon valley by several collectors.

Breeding Notes.—Found breeding from Muskoka, Ont., to Victoria, Vancouver island, and northeast to Ungava, in Labrador. Nest, a hole in the ground lined with grass, and placed beneath a tuft of old grass or small bush, always near water. The young leave the nest as soon as hatched. Found a nest on west coast of James bay, in the sand, under a small willow. The nest was made of dry grass. (*Spreadborough.*) This species, besides breeding inland in all suitable places, is especially common near the St. Lawrence river. I have found numbers of their nests in June along the gravel bar at the foot of Amherst island, lake Ontario; also on the small islands down the river. They usually construct a nest in a bunch of weeds, of dried grass, chips or anything to hand, concealing it well. I have found the nest twice in a field of grain, away from water, and once under a bush among trees on an island in a lake. The first eggs are usually laid about the 20th May, but are occasionally met with as late as July 1st. I met with this bird frequently breeding in the Magdalen islands, Gulf of St. Lawrence, and found a nest with four eggs on June 26th, 1897, built in a dry grassy place amongst spruce bushes in just such a place as one would occupy in Ontario. (*Rev. C. J. Young.*) The nests are made of a few bits of grass placed in a hole in the ground, or simply on the ground. The

vicinity of rivers and ponds is the site chosen. Sets of four and sometimes three eggs are found near Ottawa at the end of May and in June. (*Garneau.*) The writer has found this species breeding in the sandhills at Brackley point, Prince Edward island, and on Cape Forteau, near Yarmouth, N.S., where a nest containing four eggs was taken on June 23rd, 1883. On June 29th, 1895, a nest containing four eggs was taken on the shore of Cypress lake, Sask. The nest was of dried grass, concealed under a tuft of old grass, close to the lake and was only discovered by flushing the bird.

CXIII. **NUMENIUS** Brisson. 1760.

264. Long-billed Curlew.

Numenius longirostris Wils. 1814.

A rare migrant in Newfoundland, and still rarer in Nova Scotia and New Brunswick. Rather more common in Quebec and Ontario, but only known as a migrant. In Manitoba, this bird is comparatively rare as a breeding bird, but in Saskatchewan and Alberta, it is common, and extends its breeding-grounds across the Rocky mountains into British Columbia, where Mr. Fannin found it breeding at Okanagan and Similkameen. Its range to the north is limited, as we have no notices of it from north of the prairie districts, and only one specimen is recorded from Alaska. A few specimens have been taken at Victoria and in the lower Fraser valley, B.C.

Breeding Notes.—A nest of this species was taken by Col. Wyndham, on the Bow river, about fifty miles southeast of Calgary, Alta. Nest just a hollow in the ground, on the bare prairie, lined with a few straws. (*Dippie.*) Fairly common at places visited by us in western Saskatchewan and eastern Alberta, breeding in hollows on the prairie. Downy young found June 1st, 1905, and June 11th and 18th, 1906. (*A. C. Bent.*) In May, 1906, we found this bird common south of Lethbridge, Alberta, where it lays its eggs in hollows on the open prairie. (*Raine.*) Rather rare at Aweme, Man. A few breed on the open prairie. Arrives early in April. (*Criddle.*) Breeding in the Lac la Hâche valley, B.C., but not observed in the Cariboo district proper. (*Brooks.*)

This bird nests on the open prairie and its nest is exceedingly hard to find. The male flies towards any intruders and makes the air

resound with its cries. It is soon joined by other birds from a considerable distance, who join in attracting attention by their noise and actions. The young are easily found, as at least one parent keeps in their vicinity. This species was found breeding at Wood mountain, in June, 1895, and for 150 miles to the west towards the Cypress hills, upon which numbers were breeding in 1894. In the summer of 1897, it was found in southern Alberta, and was breeding, or rather caring for its young, west of Fort McLeod, in the latter part of July. In June, 1889, it was found breeding on the dry hills south of Kamloops, B.C.

265. Hudsonian Curlew.

Numenius hudsonicus LATH. 1790.

Occasional in Greenland. Abundant in Newfoundland during the migrations, but does not breed on this island. An uncommon autumn visitor in Nova Scotia and New Brunswick. Brewster saw several large flocks of curlews, which he took to be this species, at East point, Anticosti, on July 7th. Said not to breed on that island. It is a scarce migrant in Quebec and rather more common in Ontario, but is becoming scarcer according to McIlwraith. This species is not mentioned by Seton in his *Birds of Manitoba*, nor has the writer seen it in any part of the Northwest. It is occasionally seen on the coast of British Columbia, but appears to be far from common, only two specimens having been taken. Hudson bay and westward along the Arctic coast seem to be its summer haunt. It was common at Fort Churchill in 1884, according to Dr. R. Bell; and Hearne says it was common on the shores of the bay in his time. Macfarlane says it is by no means rare on the Barren Grounds, but is more common to the west. From May 18th to 25th these birds begin to make their appearance on the coast of Norton sound, Alaska, where, however, only a very few pairs remain to nest, the others passing on still farther to the north to the extended open country bordering the shores of the Arctic sea. Bishop saw a few individuals on the Alaskan coast. Palmer thinks it is a regular migrant on the Pribilof islands, Bering sea.

BREEDING NOTES.—The chief breeding haunts of this bird seem to be still unknown, but the fact of Hutchins speaking of it shows that many of the eastern migrants must breed along the south shore

of Hudson bay. Preble records seeing it daily, sometimes in considerable numbers between York Factory and Fort Churchill and northward but says nothing of finding nests or young birds. Mr. Low says curlew are not uncommon and breed on Southampton island but as no specimens were collected it may have been either this bird or the next which he saw.

266. Eskimo Curlew.

Numenius borealis (Forst.) Lath. 1790.

By far the most common species of curlew on the coast of Newfoundland, but a periodical visitor. (*Reeks.*) The Eskimo curlew are hardly a remnant of their former numbers on the Labrador coast. I heard of only about a dozen, which were seen on the coast this fall (1902). Of these I saw five. (*Bigelow.*) Casual in Greenland, and not uncommon in Nova Scotia and Prince Edward Island, but a rare autumn visitor in New Brunswick. A rare migrant in Quebec. Accidental in Ontario; Mr. McIlwraith says he is aware of only three specimens being taken in Ontario in twenty years. In addition to these Mr. J. H. Fleming cites the capture of one bird in 1873 at Wolfe island, near Kingston, Ont. This specimen is in the British museum.

Mr. L. M. Turner observed several large flocks of this species flying over the mouth of the Koaksoak river, Ungava bay; plentiful in the fall in southern Labrador, but the flocks do not stop. Mr Spreadborough saw none when he made a traverse of Labrador in July, 1896. It was found in large numbers in August, 1884, by Dr. R. Bell, at Fort Churchill, on Hudson bay.

Macfarlane found it breeding in great numbers on the Barren Grounds. It is an irregular visitor at Point Barrow, and not a common one, but Murdoch says it is well known to the natives. Mr. Nelson reports this species to be the commonest of the curlews in northern Alaska, more especially along the coasts of Bering sea and Kotzebue sound. Elliott collected a single specimen on St. Paul island, Bering sea. Figgins took a specimen, a male, on the barren grounds of Kenai mountains at 2,200 feet altitude. It was fairly common at Homer and very shy.

BREEDING NOTES.—This curlew frequents the Barren Lands within the Arctic circle in summer, where it feeds on grubs and fresh-water insects and the fruit of *Empetrum nigrum*. On the 13th June, 1822, I found one of these curlews hatching on three eggs on the shore of Point lake. (*Richardson.*)

This species breeds abundantly in the Barren Grounds to the eastward of Fort Anderson—and, except when otherwise described, these are the "Barrens" which are invariably referred to, right up to the Polar sea. The nests, in every observed instance, were mere holes or depressions in the ground. Great difficulty was frequently experienced in finding them, as the eggs closely resembled the surrounding vegetation, and the bird glided off while we were still at some distance. Thirty sets of eggs were gathered, including several from the aforesaid lower Anderson "Barrens." (*Macfarlane.*)

267. Whimbrel.

Numenius phæopus (LINN.) LATH. 1787.

Nearly a dozen examples sent from all parts of Greenland have been received at Copenhagen. Although Holbœll doubts its doing so, Prof. Reinhardt thinks that this species may breed in Greenland. (*Arct. Man.*) An example of this species was shot near Assuk, Greenland, on May 25th, 1885. (*Hagerup.*) Winge believes that this species may sometimes breed in Greenland and cites many instances of its having been taken in recent years.

268. Bristle-thighed Curlew.

Numenius tahitiensis (GMEL.) RIDGW. 1880.

On May 24th, 1880, a pair of these birds settled near by, where I was shooting black brant, on a rising stretch of land covered with large tussocks. I secured the male, which was in fine plumage, but could not find the female, although mortally wounded. This is the second known instance of this bird's occurrence on the shores of Alaska, the former record resting on the capture of a specimen at Kadiak island by Bischoff. (*Nelson.*)

Family XXII. **CHARADRIIDÆ**. Plovers.

CXIV. **VANELLUS** Brisson. 1760.

269. Lapwing.

Vanellus vanellus (Linn.) Licht. 1854.

One obtained 7th January, 1820, near Fiskenæs, Greenland; a second received at the Museum in Copenhagen from Julianshaab, in 1847. (*Arct. Man.*) On the islands in Norton sound, Alaska. (*A. O. U. List.*) A single specimen was taken near St. Johns, Newfoundland, November 27th, 1905. A full account of this capture was printed in *The Auk*, Vol. xxiii., p. 221.

CXV. **EUDROMIAS** Brehm. 1831.

Dotterel.

Eudromias morinellus (Linn.) Brehm. 1831.

One specimen was taken at King island, Alaska, July 23rd, 1897, an adult female just beginning to moult. (*McIlhenny.*) The only American record.

CXVI. **SQUATAROLA** Cuvier. 1817.

270. Black-bellied Plover.

Squatarola squatarola (Linn.) Cuvier. 1817.

Rare in Greenland, but found in both Inspectorates; said to breed on Melville peninsula. (*Arct. Man.*) Found at Whale point, Roes Welcome, Hudson bay, and evidently breeding there. (*A. P. Low.*) Common along west coast of James bay, August, 1904. (*Spreadborough.*) A common autumn migrant in Newfoundland, Nova Scotia and New Brunswick. A migrant in Quebec and Ontario in both spring and fall. Reversing its line of migration, this bird appears in Manitoba, Saskatchewan and Alberta in spring, and has been killed by Dippie at Reaburn, Manitoba, as late as June 1st. Bent reports seeing it in large flocks at Hay lake, Sask., May 29th to June 1st, 1905. Atkinson says that in Manitoba and further west, it appears in uncertain numbers in May, sometimes in large flocks and then being absent for several years. Spreadborough

found it common at Lesser Slave lake, Atha., September 3rd, 1903. On Hudson bay it is common, and extends its range thence westward, including the whole Arctic coast and all northern Alaska and down the Pacific coast to the southern boundary of British Columbia.

Breeding Notes.—Our first introduction to this handsome and somewhat rare Arctic plover was on Island point, in Franklin bay, on July 4th, 1864. The nest contained four eggs and was composed of a small quantity of withered grass, placed in a depression on the side or face of a very gentle eminence. Both parents were seen and the male shot. On the following day, another nest with four eggs was discovered, and a third also met with. In 1865, seven nests were gathered by our party in the same quarter. (*Macfarlane.*)

CXVII. CHARADRIUS Linnæus. 1758.

271. Golden Plover.

Charadrius apricarius Linn. 1758.

One specimen, taken in summer plumage, was shot in the spring of 1871, on the Noursoak peninsula; and believed by Dr. Finch to breed in East Greenland. (*Arct. Man.*) The Director of the colony of Frederickshaab reports taking a young bird of this species in August, 1887. (*Hagerup.*)

272. American Golden Plover.

Charadrius dominicus Müll. 1776.

Somewhat rare in Greenland, but possibly breeds there as it does in considerable abundance on swampy places on the Parry islands. (*Arct. Man.*) A common *autumn* migrant in Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario. It is rarely seen in the spring, and we have no account of its breeding in any of these provinces. In Manitoba and the other prairie provinces it is both a spring and autumn migrant, and leaves for the north the last week in May, returning about the middle of August. It is not known to breed in Labrador, but doubtless does along the western coasts of Hudson bay. Its breeding grounds are from Hudson bay westward, including the Barren Grounds and the coasts of the Arctic sea, to the north of the Mackenzie, Point Barrow and southwestward around the whole northern coast of Alaska, where

it seems to meet the Siberian form. It is said to breed in northern British Columbia, and the specimens taken, although not referable, according to Mr. S. N. Rhoads, to *C. fulvus*, are darker underneath than eastern specimens. Brooks saw it, in the Cariboo district, however, only during the fall migration.

Breeding Notes.—The breeding quarters of this well known bird are the Barren Grounds and the coasts and islands of the Arctic sea. It hatches early in June, and retires southward in August. (*Richardson.*) This beautiful species is very numerous in the Barren Grounds from the outskirts of the forest to the shores of the Polar sea. The nests were found to be precisely similar to those of *C. squatarola.* They were also as difficult to detect, and for the same reason, a harmonizing resemblance of the egg markings to the surrounding soil and a timeous departure of the female bird from her nest. I find 170 nests recorded in my notes. Except when there was reason to believe that the full number had not been deposited, four eggs were always met with. In one case there were five and in another only one. (*Macfarlane.*) Breeds commonly on Herschell island, from where I received a number of sets of eggs. It makes a hollow in the moss on the slopes of elevated and rising ground. (*Raine.*)

This species arrives on the shores of Norton sound, Alaska, about the end of May. They soon pair and disperse, so that a few days after the main arrival, their nests may be looked for. The nests are generally in small depressions, which may be found among the moss and dried grass of a small knoll, and at times a slight structure is made of dried grass. The grass, and perhaps, a few dead leaves of the dwarf willow are arranged in a circular, saucer-shaped form, about four or five inches across, and contain four eggs, which have a pale, yellowish ground colour, with very dark well-defined umber-brown spots, scattered rather profusely over the shell, especially about the larger end. (*Nelson.*) The golden plover arrives at Point Barrow about the end of May. It was nesting before June 20th, both seasons I was at Point Barrow, though I was unable to find its nest before the 22nd. The nest is exceedingly hard to find, although it is not concealed at all, but is simply a depression in the bare black clayey tundra, lined with a little dried moss. The only vegetation on this part of the tundra is white and grayish moss, which harmonize so extraordinarily with the peculiar blotching of the eggs, that it is almost impossible to see them unless one knows

exactly where to look. A favourite nesting place is on the high banks of the gullies or small streams. No nests were found in the grass or in swampy ground. (*Murdoch.*)

272*a*. Pacific Golden Plover.

Charadrius dominicus fulvus (GMEL.) RIDGW. 1880.

This form and the eastern one seem to grade into each other on the northern Alaskan coast, but *C. fulvus* is the commoner toward Bering strait, and breeds along the coasts of both continents around the northern shores of Bering sea. Whether typical *dominicus* occurs on the Pacific coast is doubtful, but I have never taken such absolutely typical *fulvus* as some I collected at Comox, Vancouver island, after November 3rd, 1903. (*Brooks.*) Fairly common about St. Michael, and seen also on St. George island and Unalaska, Bering sea. (*Bishop.*) Said to be fairly common at Homer, Alaska, during September. I took specimens there during the latter part of August, and one at Popof island, December 15th. (*Figgins.*) A common migrant on the Pribilof islands, Bering sea. (*Palmer.*)

It is not uncommon on the islands off the coast, and Turner speaks of it being taken on the Aleutian islands. Nelson says that on the Siberian coast of Bering sea the typical Asiatic form is common, and is of much rarer occurrence on the Alaskan coast, from the peninsula of Alaska north to Point Barrow.

CXVIII. OXYECHUS Reichenbach. 1852.

273. Killdeer Plover.

Oxyechus vocifera (LINN.) REICH. 1852.

This is a rare migrant in Newfoundland, Nova Scotia, New Brunswick and Quebec. In Ontario, it is much more common, and breeds in suitable localities throughout the province. Throughout Manitoba and the whole prairie country, this bird breeds abundantly. It is also common in the Rocky mountains and British Columbia, and breeds almost to the coast. Its northern limit is very likely the subarctic forest, as it seems to prefer open plains where brackish marshes are of frequent occurrence. Preble saw several on the grassy meadows between Fort Churchill and the mouth of the Churchill river.

Breeding Notes.—This bird is to be met with in those parts of Ontario that are in any way adapted to its habits. Its favourite haunts are rough pastures with here and there a few scrubby bushes scattered about; if there are a few stones and gravel, so much the better; the birds take kindly to such spots. I meet with a few pairs of this species every year, and notice that they breed comparatively early, the full complement of four eggs sometimes being laid as early as the 26th of April. I have found a number of their eggs, and notice that for a nesting place they usually choose a small stony or gravelly patch in a pasture; once I found a nest among small stones and rock close to a quarry, where the year before I had taken two nighthawk's eggs. (*Rev. C. J. Young.*) The killdeer plover breeds in small numbers all over western Ontario. It lays four eggs, which are so placed as to be very difficult of discovery. (*W. Saunders.*) This species nests in the gravel at the margin of lakes and ponds, also on bare ground on the prairie and in ploughed fields throughout the whole prairie region. The nest is a hole in the gravel or ground, usually not far from water. Eggs, four, always standing upon the small end in the nest. (*W. Spreadborough.*) One set of four eggs, taken near Ottawa, 30th May, 1900, was on a stump, level with the ground. The nest consisted of small pieces of the rotten wood of the stump. Another set of four eggs in a nest made of lichens and small bits of stones, was found on a large rock at Britannia, Ont., June 10th, 1900. (*Garneau.*)

CXIX. ÆGIALITIS Boie. 1822.

274. Semiplmated Plover.

Ægialitis semipalmata Bonap. 1838.

This species is a summer resident in Newfoundland, Labrador and the islands in the Gulf of St. Lawrence, breeding more or less abundantly. In Nova Scotia it has been found breeding on Seal island, Yarmouth county, by Tufts and on Sable island by Saunders. In New Brunswick, Prince Edward island and Quebec it is reported as a migrant only; yet, as Mr. Young shows, it breeds in Ontario, and doubtless in some of the other provinces also. In Manitoba and eastern Saskatchewan it is a common migrant, and breeds sparingly. The writer saw young birds of this species at the salt springs at the head of Lake Winnipegosis on 22nd July, 1881.

This bird may be said to make its summer home and bring forth its young from Ungava bay on the northeast coast of Labrador to Alaska on Norton sound. It is, however, more plentiful east of the Mackenzie than west of it. It is known only as a rare migrant in British Columbia, and not known to breed.

BREEDING NOTES.—This bird is found every fall and spring on the gravelly bars at the foot of Amherst island, Lake Ontario. There, on the 24th of June, 1895, I found a nest containing four fresh eggs. It was built on a gravelly beach, at no great distance from the water, amongst a spring growth of a little grass and sedge, and in the early spring would probably have been within reach of the high water. I met with two pairs of these birds at the Magdalen islands in June, 1897, but could not locate the nest though I knew they were breeding. (*Rev. C. J. Young.*)

This bird is quite common on parts of the Arctic coast and along the Anderson and Lockhart rivers, as well as in the country between Fort Anderson and Fort Good Hope, Mackenzie river. Most of the twenty nests taken contained four eggs, and several but two or three. When closely approached, the female glided from the nest and ran a short distance before flying, occasionally drooping her wings and pretending lameness. The nest is a mere cavity in the sand, lined with a few withered leaves and grasses. (*Macfarlane.*) In June, 1896, this species was found to be common from Moose Factory, James bay to Richmond gulf, Hudson bay. On the 18th June Mr. A. P. Low found a nest containing four eggs. Nest in sand, beside a stone, composed of a little dry grass. This bird was observed throughout the interior of Labrador in summer wherever there were large lakes with sandy shores. Common along both shores of James bay in 1904. On July 7th saw young still unable to fly. (*W. Spreadborough.*) A nest found by Bishop at Lake Marsh, Yukon district was a hollow, lined with a few grasses and dead leaves and was situated about eight feet from the water in the drift debris among the stones on the beach.

275. Ring Plover.

Ægialitis hiaticula (LINN.) BOIE. 1822.

Breeds generally in Greenland and found on Clavering and Sabine islands; said to be abundant on the shores of Possession bay and

Regent inlet. (*Arct. Man.*) This species was observed on August 15th, 1886, near a shallow lake, about 1100 feet above sea level; a nest and eggs were found near Godhavn, Greenland, on June 14th, 1880. (*Hagerup.*)

276. Little Ring Plover.

Ægialitis dubia (Scop.) Swinh. 1871.

Accidental on the coast of Alaska. (*A.O.U. List.*)

277. Piping Plover.

Ægialitis meloda (Ord) Bonap. 1838.

This species, besides being a migrant, breeds in suitable places in nearly all the eastern provinces. It was found breeding by Downs at Port Petpiswick, Nova Scotia, by Tufts on Seal island, Yarmouth county, N.S.; by Bishop, near high water-mark on the Magdalen islands; and by W. Saunders on Pelee point, Lake Erie. It is not a widely distributed species and seems to prefer the sea coast. Mr. Saunders writes that while there is no doubt that this bird formerly was found at Point Pelee and Rondeau, Lake Erie its place has now been taken there by the belted piping plover, and at Toronto, according to Mr. Fleming, all the specimens in local collections taken before 1894 are referrable to *meloda* ; the first record of *circumcincta* was in 1891, and all recent records belong to this form.

Breeding Notes.—A very noisy species that is quite abundant at the Magdalen islands, where I found four nests in 1897, but I have not observed it in Ontario. It is an interesting bird running along the sandy beach at a great speed and stopping now and again to utter its shrill note. Being so much lighter in colour it is at once distinguished from *Æ. semipalmata,* as well as by its note. The first nest I found was on the 16th of June. It was on one of the sandy bars of Grindstone island. The nest consisted of a little hole scooped out on a small hummock of sand, and was tesselated as it were with broken pieces of clam shells, after the manner of the ring plover of Great Britain. No grass or bits of bark are used as with *Æ. semipalmata.* The other nests were identical, the eggs being fresh in the second week in June. (*Rev. C. J. Young.*) In the latter part of June, 1888, the writer found three nests of this

species on the sands of Brackley beach, Prince Edward Island. They were mere holes in the sand or rather fine gravel and broken shells and without any lining whatever. The bird and its surroundings were so much alike that it was only by accident that any nests were found. Mr. W. Saunders writes that he has an egg, which is probably of this species, from Long Point, Lake Erie, and also a young bird, only a few days old, taken on Point Pelee, Lake Erie.

277*a*. Belted Piping Plover.

Ægialitis meloda circumcincta RIDGW. 1874.

This form is quite common on Sable Island nearly 100 miles east of Canso, N.S., and breeds there in numbers every year. The writer procured specimens on the island in August, 1898, and saw no difference between them and those taken at Indian Head, Sask., in 1892. No doubt this is the form mentioned under the head of piping plover by Seton in his *Birds of Manitoba*. This species did not reach Deep lake, Indian Head, Sask., until May 16th, 1892. In three days they were common. Shortly after they dispersed to breed, only a few pairs remaining at the lake. I am informed by Mr. Dippie that a nest of this species containing four eggs was taken at Manitoba House, Manitoba lake, in June, 1895, and that downy young have been taken also.

This species is occasionally taken at Toronto, Ont. All recent records belong to this form. (*J. H. Fleming.*) All the birds seen by me in 1905 and 1906 on the former breeding-grounds of the piping plover were the belted plover. (*W. Saunders.*)

BREEDING NOTES.—On June 19th, 1895, Mr. Oliver Spanner found a nest of this species on Birch island near the west shore of Lake Manitoba. The nest consisted of a depression in the sand lined with bits of drift-weed and contained three eggs, which are similar to those of the common piping plover; the ground colour is pale buff which is finely spotted with black and purple and gray. The eggs average in size 1.25 x 1.00 inches. Both eggs and skin of the parent are now in my collection. Mr. Spanner also obtained young birds in the down at the same time. He saw several pairs of the plovers in company with solitary sandpipers, which were no doubt nesting in the vicinity. (*Raine.*)

On June 18th, a nest containing three eggs was discovered on a long point extending into Deep lake, near Indian Head, Sask. It was in a shallow hole in sand behind a large stone, and no grass or weeds within twenty feet of it. (*Spreadborough.*) Breeding abundantly on gravelly beaches at Big Stick lake, Sask., June, 1906. (*A. C. Bent.*) Mr. W. Saunders in *The Ottawa Naturalist*, Vol. XVI, p. 25, gives a detailed account of the breeding habits of this bird on Sable island, N.S.

278. **Snowy Plover.**

Ægialitis nivosa CASS. 1858.

A casual straggler from the western United States. A specimen of this bird was shot at Toronto, Ont., in May, 1880, by Mr. J. Froman of that city, and identified by Mr. Ernest T. Seton. See McIlwraith's *Birds of Ontario*, page 166. There is a specimen in Mr. J. H. Ames' collection taken at Toronto, July 6th, 1897. (*J. H. Fleming.*)

279. **Mongolian Plover.**

Ægialitis mongola (PALL.) SWINH. 1870.

This handsome addition to the plovers of North America was made by the captain of the ship *Plover*, during his visit to Kotzebue sound, in the summer of 1849, when he secured two specimens upon Chloris peninsula. It is a common summer resident on the Commander islands where it was found breeding by Stejneger. (*Nelson.*)

BREEDING NOTES.—Nests of this bird were found by Stejneger early in June. A nest was found on June 4th and contained three eggs. It was in a hollow between the stems of four specimens of *Angelica archangelica* and lined with dry fragments of leaves and stems of the same plant.

CXX. **OCHTHODROMUS** REICHENBACH 1852.

280. **Wilson Plover.**

Ochthodromus wilsonius. (ORD) REICH. 1852.

Casual north to Nova Scotia. (*A. O. U. List.*) The authenticity of the records for Nova Scotia is very doubtful.

CXXI. **PODASOCYS** Coues 1886.

281. Mountain Plover.

Podasocys montanus (Towns.) Coues 1866.

Chiefly the plains, from central Kansas to the Rocky mountains, north to the British Boundary, breeding from Kansas northward. (*A. O. U. List.*) Dr. Elliott Coues found this species at the mouth of Frenchman river and westward to near the Sweet Grass hills in July, 1874, and there is a specimen in the British Museum labelled "North American Boundary Commission, 49th parallel, June 24th, 1874, No. 91. G. Dawson." In June, 1895, the writer was on Frenchman river, Sask., for many miles and did not see a trace of the bird so that lat. 49° must be close to its northern limit.

Family XXIII. **APHRIZIDÆ**. Surf-Birds and Turnstones.

CXXII. **APHRIZA** Audubon. 1839.

282. Surf Bird.

Aphriza virgata (Gmel.) Gray. 1847.

Four specimens of this bird were taken in the vicinity of Sitka by Bischoff. It is a wide-spread Pacific species, occurring only as a rare summer or fall visitant on the shores of the North Pacific and Bering sea, reaching the vicinity of Bering straits in Norton sound. A pair was seen one autumn at St. Michael and a few others at various times. (*Nelson.*) Sixteen taken from a flock on a rocky islet, Sitka, Alaska, July 21st, 1896. These were all apparently immature birds, that is, non-breeding birds of the second year. (*Grinnell.*) Not uncommon along the whole coast of British Columbia. It has been taken in Howe sound by Mr. R.V. Griffin; at Port Simpson by Mr. W. B. Anderson; and at Nanaimo and Fort Rupert by Lord. It was also found very abundant on Stubbs island on the west coast of Vancouver island, in August, 1893, by Mr. W, Spreadborough; it very likely breeds there. In August, 1904, Mr. Spreadborough saw two large flocks of what he took to be the surf bird on the west coast of James bay, Hudson bay. He took no specimens but writes that the birds seen were in appear-

ance exactly like those taken by him on the Pacific coast. The region in which these birds were seen is so far from the known range of the surf bird that we would without hesitation express our belief that Mr. Spreadborough was mistaken, were it not that he is such a careful observer and is so familiar with the appearance and habits of most of our shore birds.

CXXIII. **ARENARIA** Brisson. 1760.

283. Turnstone.

Arenaria interpres (Linn.) Vieill. 1819.

Not common, according to Holbœll, in Greenland. It breeds, however, generally along the coast of Greenland, as well as on Sabine island and at Cape Brœr Ruys; also recorded from Winter island in June, and breeds on the Parry islands. (*Arct. Man.*) An abundant fall migrant on the Pribilof islands, Bering sea. I saw none in May or June except four at Unalaska, May 19th. (*Palmer.*) Figgins collected two specimens at Homer, Alaska, in August, 1901, which Chapman says are "obviously to be referred to *interpres*." Typical breeding birds and many young were taken by McIlhenny at Point Barrow and Port Clarence, Alaska. Bishop says, *The Auk*, Vol. XXIII, p. 335, that three specimens in his collection, taken at Nome, Alaska, are intermediate between *A. interpres* and *A. morinella*. Both he and Oberholser think that *morinella* is merely a sub-species. The writer is also of that opinion.

283.1 Ruddy Turnstone.

Arenaria morinella (Linn.) Palmer. 1899.

This species is a common autumn migrant in Newfoundland, less so in Nova Scotia and New Brunswick. It is more rare in the gulf and along the River St. Lawrence, and still rarer in Ontario, though Fleming records it as a regular migrant at Toronto, Ont., common in the spring. Not uncommon in Manitoba and eastern Saskatchewan as a spring and autumn migrant. It was first seen at Indian Head, Sask., May 15th, 1892, and finally left for the north on June 2nd. Its breeding grounds may be said to extend from Hudson bay westward around the whole Arctic coast of North America and up to the 75th parallel. It also extends along the whole coast of

Alaska, breeding in some places, but as a migrant in others. On the British Columbia coast it is always a migrant and not a common one.

Preble, Low, Bell and other collectors record the turnstone from the Hudson bay region, Preble as *morinella*, the earlier collectors as *interpres*. Without specimens it is of course impossible to determine the species to which records made before 1899 should go, but so far as known true *interpres* is, in North America, confined to Greenland and Alaska, an occasional specimen being taken farther south on both sides of the continent. Most of the earlier Alaskan references doubtless refer to true *interpres*. The occurrence of intermediate forms makes it appear probable that *morinella* is at best only a sub-species.

Breeding Notes.—In June, 1864, a dozen birds were observed at Fort Anderson, and one was shot. This species breeds on the shores of Liverpool and Franklin bays, and on the lower Anderson river. Several nests were secured in the latter region; but none were met with in the Barren Grounds. Four was the maximum number of eggs in a nest, which was similar to that of the other waders. (*Macfarlane.*)

284. Black Turnstone.

Arenaria melanocephala (Vig.) Stejn. 1884.

This species is far more plentiful on the coast of Bering sea than the preceding species and is one of the most abundant waders from Sitka north along the mainland and coast of Alaska. I found it also along the coast of the Arctic sea from Bering strait to Point Barrow, and it was also observed sparingly on St. Lawrence island. It breeds among the brackish pools on St. Michael island, and is found scattered over the brackish flats everywhere. (*Nelson.*) Although I did not find the nest and eggs of the bird, it breeds along the entire coast of the mainland of Alaska. It is one of the earliest arrivals in the vicinity of St. Michael and after the ice has left the shores it is ever on the alert for food along the beach. (*Turner.*) Four adult specimens taken at Orca, Prince William sound, Alaska. (*Grinnell.*) Common at Homer, Alaska, during migration. (*Figgins.*)

According to Mr. John Fannin this species breeds along the shores of British Columbia and is more or less common on the shores of Vancouver island. Mr. W. Spreadborough saw several specimens on Stubbs island, Clayoquet sound, in August 1893.

Family XXIV. **HÆMATOPODIDÆ**. Oyster-Catchers.

CXXIV. **HÆMATOPUS**. Linnæus. 1758.

285. **European Oyster-catcher.**

Hæmatopus ostralegus Linn. 1758.

One specimen was sent to Copenhagen from Julianshaab in 1847, another in 1871 from Godthaab, and a third from Nenortalik in 1859. (*Arct.* Man.)

286. **American Oyster-catcher.**

Hæmatopus palliatus Temm. 1820.

Aud. Vol. V, page 237, says he found several pairs breeding in Labrador. (*Turner.*) North to Grand Manan, N.B. (*A. O. U. List.*)

287. **Black Oyster-catcher.**

Hæmatopus bachmani Aud. 1839.

This bird is found abundantly at Sitka and Kadiak and Dall found it a summer resident on the entire Aleutian chain. Its range is not known to extend to the north beyond the Aleutian islands. (*Nelson.*) This species is found on the islands of Alaska that lie south of the peninsula of Alaska and as far east as the Shumagin group and to the westward as far as Kiska island of the Aleutian chain and is a constant resident of this area. It is strictly littoral in its habits and always flies over the sea when moving from point to point. (*Turner.*) Taken at Nutchuk, Prince William sound, Alaska. (*Grinnell.*) An abundant resident along the coasts of British Columbia and Vancouver island.

BREEDING NOTES.—This bird breeds throughout its range. The eggs are laid on the bare rocks, just above high-water wash. The number of eggs varies from one to three, usually two, and are laid about the 10th June. (*Turner.*) A nest of this species found in Cumshewa inlet, Queen Charlotte islands, June 17th, 1899, was merely a hollow about two inches deep and almost perfectly round, scooped out of a weedy turf a few feet above high-water mark. The bottom of the hollow was covered with bits of broken stone, evidently placed there by the old bird. (*Osgood.*) Dall found two nests on the Shumagin group, June 23rd, 1872. In both cases the eggs were placed directly on the gravel of the beach; one nest contained two eggs, the other one. Mr. John Fannin says that the eggs are generally two and laid on the bare rocks close to the water.

ORDER GALLINÆ. GALLINACEOUS BIRDS.

FAMILY XXV. **TETRAONIDÆ**. GROUSE, PARTRIDGES, &C.

CXXV. **COLINUS** GOLDFUSS. 1820.

289. **Bob-white. Quail.**

Colinus virginianus (LINN.) STEJN. 1885.

The Bob-white may be claimed as a permanent resident in southern Ontario, which is the northern limit of its range, but it has hard work to hold its own against the many influences that are continually operating against it. (*McIlwraith.*) Breeds all through the southern part of the southwestern peninsula of Ontario, commonly below lat. 43° and more rarely up to lat. 44°. (*W. Saunders.*) The quail was at one time found along the north shore of Lake Ontario, certainly as far east as Port Hope. I doubt if any quail of pure blood are left east of Lake Erie. (*J. H. Fleming.*)

CXXVI. **OREORTYX** BAIRD. 1858.

292. **Mountain Partridge.**

Oreortyx pictus (DOUGL.) BAIRD. 1858.

Quite common on Vancouver island. Introduced from California. (*Fannin.*) Very plentiful on the Sooke hills, about 25 miles from Victoria, Vancouver Island in 1906. (*Spreadborough.*)

CXXVII. LOPHORTYX. Bonaparte. 1838.

294. California Partridge.

Lophortyx californicus (Shaw) Bonap. 1838.

Vancouver island. Introduced from California. (*Fannin.*) They were quite numerous in the autumn of 1892, but the winter of 1892–93 being very severe a great number died. They have increased rapidly since and in the autumn of 1906 were very abundant near Victoria, Vancouver island. (*Spreadborough.*)

CXXVIII. DENDRAGAPUS. Elliot. 1864.

297. Dusky Grouse.

Dendragapus obscurus (Say) Elliot. 1864.

We have no specimens of this grouse in our collections, nor are we sure that this form occurs in Canada. It is more than probable, however, that it is partly the blue grouse of southwestern British Columbia. In the United States it has been taken in Montana and Idaho and hence may cross the British Columbia boundary.

297*a*. Sooty Grouse.

Dendragapus obscurus fuliginosus Ridgw. 1885.

On my arrival on the coast of British Columbia, in the month of April, 1889, the calls of this species could be heard nearly throughout the day. (*Streator.*) West of the Coast range, in British Columbia, including all the larger islands, an abundant resident. (*Fannin.*) Abundant on the western slope of the Coast range, B.C. (*Brooks.*) Common in all parts of Vancouver island; begins to call about April 1st ; quite common at Hastings, B.C., in April, 1889, when it made the woods resound with its almost constant calls. Common along the international boundary from Whipsaw creek west to Chilliwack, B. C., in 1905 ; rare on the mountains along the Chilliwack river, B.C., in 1906. (*Spreadborough.*) Bischoff secured seven of these birds in the vicinity of Sitka, and Hartlaub records it from Portage bay. There is no doubt that this bird occurs considerably farther north than Sitka along the coast region. (*Nelson.*)

Several heard booming about Cumshewa inlet, Queen Charlotte islands, B.C., early in June, 1899. A pair of adult birds was taken at an altitude of about 3,000 feet in the mountains at the head of Cumshewa inlet, June 23rd. (*Osgood.*) We were told that grouse were common on the heights above Skagway, Alaska, but although we often found droppings we saw no birds. (*Bishop.*)

297*b*. Richardson Grouse.

Dendragapus obscurus richardsonii (DOUGL.) RIDGW. 1885.

This large grouse inhabits the Rocky mountains up to lat. 64°. (*Richardson.*) North to Fort Halkett on the Mackenzie river; only in the mountains. (*Ross.*) Seen along the trail from Jasper House, Rocky mountains, to Camp river, B.C.; also at timber line on the mountains in the summer of 1898; common on the hills around Midway, B.C., not so plentiful at Sidley; a few seen on the hills at Osoyoos lake; common between the Columbia river and Cascade, B.C. (*Spreadborough.*) East of the Coast range, including the Rocky mountain districts. An abundant resident. (*Fannin.*) This species was found to be a common resident of the interior, and takes the place of the sooty grouse. (*Streator.*) Common in the partially wooded country in Lac la Hâche valley, Chilcotin, and at Soda creek, and again on the summits of the mountains of the Cariboo range, B.C., but not in the intervening heavily wooded country. All secured showed faint traces of a terminal bar. (*Brooks.*)

This species is general throughout the mountains from the east side of the Coast range to the eastern foothills of the Rocky mountains in Alberta. It is found in company with Franklin grouse at from four to seven thousand feet altitude, and in British Columbia even lower.

BREEDING NOTES.—One nest of this species was taken on the slope of the mountain near Revelstoke, B.C. It was placed on the ground close to a partly rotten log, and the nest was made chiefly of dead wood. There were six eggs perfectly fresh on May 22nd, 1890, when the nest was discovered, and from the constant calling and drumming both this and the gray ruffed grouse must have been puite plentiful.

CXXIX. **CANACHITES**. GRANT. 1893.

298. Hudsonian Spruce Grouse.

Canachites canadensis (LINN.) GRANT. 1893.

Labrador, Hudson Bay region and westward to eastern Alaska. (*A. O. U. Check-list, Eleventh Suppl.*) A very rare and uncertain straggler from Labrador to Newfoundland. (*Reeks.*) A common resident in Nova Scotia, but will soon be exterminated on account of its tameness. (*Downs.*) A resident in New Brunswick, but rather rare in the St. John district. (*Chamberlain.*) Saw a female with young at Richmond gulf, June 30th, 1896. None observed elsewhere in Labrador. Said to be plentiful a short distance up the river from Fort Chimo; common from Missinabi to Raft river, James bay. (*Spreadborough.*) Breeds sparingly in the northern part of the Bruce peninsula of Ontario. (*W. Saunders.*) Formerly common in the central parts of eastern Ontario, but now (1906) it is all but extinct. (*Rev. C. J. Young.*) An abundant resident throughout the wooded parts of Labrador, the whole province of Quebec, and northern and northwestern Ontario. According to Seton it is common at Lake Winnipeg, and extends northwesterly in the spruce forests; Preble found it northeasterly from Lake Winnipeg to Oxford lake and Hayes river and it has been recorded from York Factory, Fort Churchill and the Severn river; indeed its range is the spruce forests of the Atlantic coast, and thence across the sub-arctic forest to the Yukon. Nelson says it is found on the shores of Bering sea where the spruce forest touches the coast.

298*b*. Alaska Spruce Grouse.

Canachites canadensis osgoodi BISHOP. 1900.

The range of this species is northern British Columbia, Yukon district and Alaska. Nelson records the Canada grouse, doubtless this variety, from the shores of Bering sea wherever the spruce forest touches the coast. First met with by Bishop and Osgood in 1899 at Bennett City, B.C.; also seen by them at Lake Marsh, Lake Lebarge and Thirty-mile river, Yukon district and reported to them from Rampart City and the Kuskokwim river, Alaska. Found by Osgood in 1901 to be abundant in all the Cook inlet

region and inland from Cook inlet in 1902, specimens taken there agreeing with typical *osgoodi* from the Yukon valley. In 1901 Figgins found it to be common and breeding throughout the Kenai peninsula, as did Anderson in 1903.

298c. Canadian Spruce Grouse.

Canachites canadensis canace (LINN.) NORTON. 1901.

Northern Minnesota, northern New York, northern New England, New Brunswick, and the Canadian zone of southern and eastern Canada. (*A. O. U. Check-list, Eleventh Supplement.*) Many of the eastern, and probably all the Ontario references under *C. canadensis* should go here. According to Mr. Fleming, Zepher, Ont., about 45 miles northeast of Toronto is the most southern point in Ontario where this partridge is found.

299. Franklin Grouse.

Canachites franklinii (DOUGL.) GRANT. 1893.

Northern Rocky Mountains, from northwestern Montana to the coast ranges of Oregon and Washington, and northward in British America, reaching the Pacific coast of southern Alaska, (lat. 60° N.) (*A. O. U. List.*) This bird inhabits the valleys of the Rocky mountains from the sources of the Missouri to those of the Mackenzie. (*Richardson.*) Saw one near Midway, B.C., in the thick woods, April 12th, 1905, and another on the Hope trail, July 8th. A few observed on mountain sides and in thick woods at Cascade and Trail, B.C. in 1902. (*Spreadborough.*) Abundant in suitable localities in the Cariboo district, B.C.; to the northward it will probably intergrade with the Canada grouse as many of the specimens secured showed a decided infusion of *canadensis* blood, the tail being narrowly tipped with fulvous or white. (*Brooks.*) Throughout the wooded portion of the interior of British Columbia, east of, and including the Coast range to Cassiar. An abundant resident. (*Fannin.*)

This grouse was quite common along the line of the Canadian Pacific railway, in the Rocky mountains, in the Bow River pass and westward, in 1885. It is so tame that it is named the "fool

hen," and many are killed with sticks as they sit on the low branches. Reported as common about Jasper House, on the Athabasca river, in the summer of 1898, by Mr. W. Spreadborough.

Breeding Notes.—This species seems to nest exactly like the other grouse. One nest found at the base of a tree at Hector, Rocky mountains, on July 29th, 1885, contained eight eggs. The young were just emerging from the shell and would evidently leave the nest at once, as indeed two of them attempted to do as we stood by them.

CXXX. **BONASA** Stephens. 1819.

300. Ruffed Grouse. "Partridge."

Bonasa umbellus (Linn.) Steph. 1819.

From all I have observed, I think that we have in Ontario individuals of both *Bonasa umbellus* and *Bonasa umbellus togata*, that these two intergrade and produce a mixed race which is found throughout southern Ontario, but cannot properly be classed with either of the varieties. (*McIlwraith.*)

It is doubtful whether true *umbellus* is found in Canada, but until more material has been collected and all the old collections have been examined McIlwraith's statement must stand. On the other hand, further study may show that *togata* is not separable from *umbellus*.

300*a*. Canadian Ruffed Grouse.

Bonasa umbellus togata (Linn.) Ridgw. 1885.

Common from Missinabi river to Moose Factory, James bay. None observed in Labrador in 1896. I think they go very little further north in Labrador than the birch and poplar. (*Spreadborough.*) Northeasterly from Lake Winnipeg to Oxford lake and Trout river; recorded by Foster from Fort Albany and Severn river and by Bell from York Factory. (*Preble.*)

This is an abundant resident in Nova Scotia, New Brunswick, Prince Edward Island, Quebec and Ontario. It seems to range

all through southern Labrador with stragglers well to the north. Westward from Ontario it extends across the whole wooded country being found in the spruce forest north of the prairie region to the boundaries of the Barren Grounds. The Rocky mountain district may have this species in considerable numbers, but as we have no specimens from there its distribution is still uncertain.

East of and including the coast range, "an abundant resident. (*Fannin.*) Typical birds of this sub-species as well as *B. sabini* occur in equal numbers as well as every intergradation between them in the lower Fraser valley; most of the ruffed grouse of the Cariboo district are intermediate between this form and the next but ultra-typical examples of each were taken in 1891. (*Brooks.*) Common in the interior; found about thickets that border running water in British Columbia. The specimens are identical with those from New Brunswick. (*Streator.*) Common along the Chilliwack river up to Chilliwack lake, B.C., in August, 1906. (*Spreadborough.*)

Breeding Notes.—In the sunny weather towards the beginning of April if there is a crust on the snow the ruffed grouse resorts to the hill-sides facing the sun and the males strut about with their tails spread out to their fullest extent and their wings trailing the the ground like a turkey cock. If the spring be early the males begin to drum and continue drumming from a month to six weeks. In the meantime the females have chosen nesting sites on the ground, usually at the root of a tree but sometimes under a log or beneath a bush. The eggs in a nest vary from nine to thirteen. Upon leaving the nest the female always covers the eggs with dry leaves. In summer the young and old feed upon larvæ, insects and berries, and are very fond of clover. In the autumn they feed upon black cherries, haws, mountain-ash berries and rose-hips. In the winter they feed, in flocks of ten to twenty or more, on the buds of birch, maple or ironwood, and seem to prefer the latter. During the winter they feed but twice a day in cold weather. These times are at dawn, indeed almost before it is light, and just as it is getting dark. As soon as they have eaten their fill, they dive under the snow and remain there until their next time of feeding. (*Spreadborough.*) It breeds early, usually commencing to lay in April. In April, 1897, I saw an egg as early as the 14th. Sometimes a

strange locality is chosen for a nest. Once I found one containing twelve eggs at the foot of a beech tree, against the trunk and protected by it; forty feet up was a red-shouldered hawk's nest, which in due time hatched out, as did the grouse at the foot. (*Rev. C. J. Young.*)

300*b*. Gray Ruffed Grouse.

Bonasa umbellus umbelloides (DOUGL.) BAIRD. 1858.

According to the A. O. U. List this form ranges from the United States northward into British America, north to Alaska and east to Manitoba. Mr. Seton, in his *Birds of Manitoba*, makes this form the resident of the aspen woods of Manitoba, and the writer believes this to be the species found in all parts of the wooded portions of the western prairie and the foothills of the Rocky mountains, including the aspen forests on the Peace river and northward down the Mackenzie. Mr. W. Spreadborough reports this form to have been common from Edmonton to Jasper House in the Yellow Head pass in 1898, and from Lesser Slave lake to the Peace river, Atha., in 1903. In Alaska, however, Nelson states that this form is the only one, and that it has its home in the spruce forests and goes north as far as these forests extend. He also asserts that all specimens from north of Great Slave lake, excepting the coast form, found along the Pacific, are referable to the gray northern form. By a careful sifting of the statements of the various observers it will be seen that the range of the gray ruffed grouse and the Canadian ruffed grouse are not well defined, and that these forms are so closely related that Mr. Seton's line of demarcation seems to be the true test of the form, or rather colour, and that the resident of the aspen woods is *B. umbelloides*, while that of the spruce forests is *B. togata*. This leaves *B. umbellus togata* on the Atlantic coast and *B. umbellus sabini* on the Pacific coast.

The common form in Manitoba. It was collected in 1906 in bluffs and woods from Portage la Prairie, Man., to Edmonton, Alta. (*Atkinson.*) Moderately common at Aweme, Man., in aspen and willow thickets. Both the gray and the rusty forms are found at Aweme in aspen woods though the latter is much the rarer one. (*Criddle.*) Common at Midway, B. C., seen at Meyers creek, Sidley and Penticton, B.C. (*Spreadborough.*) Most of the ruffed grouse

in the Cariboo district could be referred to this form but some specimens were closer to typical *umbellus* or to *togata*. (*Brooks.*) Seen at Lake Lebarge, Lower Lebarge and Rink rapids, Yukon. We were told at Lower Lebarge that this species was rare there but common near Rampart City Alaska. (*Bishop.*)

BREEDING NOTES.—Two nests of this species were taken by the writer at Revelstoke, B.C., on the 13th and 18th of May, 1890. Both nests were in the same situation, on a burnt hillside beside a fallen log. One contained six and the other seven eggs. Both sets were quite fresh, but in each case the old bird rose from the nest or near it. All the birds shot around Revelstoke were of this form, except one which is good *B. togata*. This specimen may be a young bird only a year old, and might have changed to *true B. umbelloides* at the next moult.

300*c*. **Oregon Ruffed Grouse.**

Bonasa umbellus sabini (DOUGL.) COUES. 1872.

A few specimens of this bird were taken about Sitka by Bischoff, and others have been found in British Columbia, so that there is no doubt it occurs along the northwest coast as far as the heavily wooded region in the vicinity of Kadiak and the adjoining mainland. (*Nelson.*) One of the most abundant birds of the coast region of British Columbia, including all the islands in the Gulf of Georgia, Vancouver island and Queen Charlotte islands. To me this form is quite distinct, but yet I have been told by sportsmen that three varieties have been found in the same covey.

CXXXI. **LAGOPUS** BRISSON. 1760.

301. **Willow Ptarmigan.**

Lagopus lagopus (LINN.) STEJN. 1885.

This species and the rock ptarmigan with their sub-species are found throughout the whole northern part of the American continent including all the islands on the Atlantic side from Newfoundland westward. Both species breed to the north of the thickly wooded country but the willow ptarmigan is more southern and less elevated in its range. In winter it enters the sub-arctic forest

and often descends to the margins of the northern settlements, but the rock ptarmigan is much less common.

The breeding range of this species extends across Labrador and the region west of Hudson bay and stretches northward into the Barren Grounds and southward into the spruce forest along their southern border. In Alaska it is also abundant but is restricted in summer to the barren sea-coast or on the open grounds of the interior. Its winter range is less defined as it is found much further south in some winters than in others. Mr. Brewster found this species with young birds at Fox bay, Anticosti, in summer, so that the southern breeding limit may extend much further south than is indicated above.

A transient visitor about Montreal in winter, but common in eastern Quebec north of the St. Lawrence. We have no account of its occurrence in New Brunswick or Nova Scotia. A casual visitor on the Gatineau, north of the city of Ottawa, and at the Sault Ste. Marie, Lake Superior. Mr. Fleming records the taking of a specimen near Whitby, Ont., May 15th, 1897. An unusual southern migration took place in the winter of 1896–97 when Mr. Fleming recorded willow ptarmigan from as far south as Lake Nipissing. The points cited above show that it may be looked for in winter in all the northern forests. Its winter range westward of Lake Superior to Lake Winnipeg is not well defined but Mr. Seton cites many instances of its occurrence in northern Manitoba and west and east of Lake Winnipeg. Thence westward its winter range seems to be confined to spruce woods, seldom coming south of lat 53° in the Saskatchewan country. Nelson and Turner unite in stating that it is a plentiful resident on the entire mainland coast of Alaska in summer; in winter it retires to the forest. Figgins records it from Homer, the Kenai mountains and Popof island, Alaska, Anderson from Mueller bay and Grinnell from Kadiak island. The only notices of its occurrence in British Columbia are at Dease lake and Atlin in the northern part of the province.

Breeding Notes.—Mr. A. P. Low has taken many eggs in Labrador and says that the set ranges from nine to twelve. There is nothing peculiar about the nest that would separate it from that of the ruffed grouse. It was always found in a sheltered place, however. First observed in Labrador on June 23rd a short distance

north of Fort George. Mr. A. Young on that date found a nest with thirteen eggs. Incubation pretty far advanced. After this a few were seen every day on islands in the bay until Richmond gulf was reached. From there across Ungava to Ungava bay they were very numerous and numbers of young were running about by the first week in July. I have very little doubt that they pair in the breeding season as we always found both old birds with the young brood, and the males make just as much fuss as the female if one happens to go near their young. Young birds nearly full grown were shot August 13th, 1904, forty miles south of Cape Henrietta Maria, James bay. (*Spreadborough.*)

301*a*. **Allen Ptarmigan.**

Lagopus lagopus alleni STEJN. 1885.

Very abundant throughout the year, and the only lowland species indigenous to Newfoundland. (*Reeks.*)

302. **Rock Ptarmigan.**

Lagopus rupestris (GMEL.) LEACH. 1817.

The range of this species is more alpine and more northern than that of the willow grouse and hence its breeding range is more northerly and its southward movement little beyond the margin of the open country or Barren Grounds. This species is very abundant on both sides of Hudson Strait, breeding in vast numbers on the islands to the north of the strait. No authentic records of its being taken in Ontario or southern Quebec have been seen, and the same statement may be made of Manitoba and westward.

This bird is found around Hudson bay, on Melville peninsula and the Barren Grounds, seldom going further south in winter than lat. 63° in the interior, but descending along the coast of Hudson bay to lat. 58°, and in severe seasons to lat. 55°. (*Richardson.*) In crossing Ungava from Richmond gulf to Ungava bay, in 1896, only two young ones were seen, and these were near Ungava bay, on Sept. 14th. (*Spreadborough.*) Common from Hamilton inlet, Labrador, northward. Beyond Okak the rock ptarmigan probably belong to the race *reinhardi*. (*Bigelow.*) Fairly common as far north as the willow is met with. Found throughout the

year at Fullerton, Hudson bay but only in small numbers during the winter, the main body migrating southward early in October. Thousands were seen at that date crossing Chesterfield inlet in flocks of several hundreds. They return from the south in May usually in small flocks. (*A. P. Low.*) North of the Mackenzie to the Arctic coast, rather rare. (*Ross.*) This species is not nearly so plentiful as the willow ptarmigan, and we only met with it in any considerable numbers from Horton river, Barren Grounds, to the shore of Franklin bay. Very few nests were found to the eastward of that river or on the coast or "Barrens" of the lower Anderson. (*Macfarlane.*) Common on the summits of most mountains on the British Columbia mainland and on Vancouver island. Quite common at Atlin, B.C. (*Kermode.*) Three males were taken at White Pass summit, B.C. (*Bishop.*) This beautiful bird is a common resident of the Alaskan mainland, from Bering strait to the British border on the east, including the entire north and south extent of the mainland. (*Nelson.*) This species is found on all the hills and higher ground along the entire coast region of Alaska. In the interior it is found only on the mountain chains. It is abundant within the Arctic circle down to Kadiak island. It is the only species of ptarmigan found on the eastern Aleutian islands. (*Turner.*) This species is a much less plentiful resident at Point Barrow than the willow ptarmigan. It breeds not far from the station, but I never found its nest. (*Murdoch.*)

Breeding Notes.—The rock ptarmigan builds its nest of grass, etc., lined with finer grasses and some of its own feathers. The usual complement is eight to ten eggs. (*A. P. Low.*) I have two clutches of eggs from Herschell island, one of eleven the other of eight eggs. Both nests consisted of hollows in the moss lined with a few feathers. (*W. Raine.*)

302*a*. Reinhardt Ptarmigan.

Lagopus rupestris reinhardi (Brehm) Blasius. 1862.

The only species of the genus that inhabits Greenland, where it occurs equally on the east as on the west coast, found on both Sabine and Clavering islands; in great abundance on Parry islands and Melville peninsula. (*Arct. Man.*) A resident at Ivigtut, but most abundant in winter. (*Hagerup.*) According to Sabine, this bird

inhabits the islands lying on the southwest side of Baffin bay. (*Richardson.*) The ptarmigan is common on Ellesmere island. Only the hens change colour and become dark in the spring; with the exception of a few dark feathers on the crown of their head the cocks retain their white winter garb. (*E. Bay.*)

302*b*. Nelson Ptarmigan.

Lagopus rupestris nelsoni STEJN 1884.

The types of this race were taken by Mr. Nelson, in spring, at Unalaska, and Dall collected winter specimens at the same place. This ptarmigan is common on the Aleutian islands at least from Unalaska eastward, where it frequents the mountain tops and slopes, breeding there in June. (*Nelson.*) A few pairs were seen on barren rocky parts of the "Portage mountain" between the head of the Chulitna river and Swan lake, Alaska, and they were seen again in the mountains on the Kanatak portage and about Cold bay. With the material at hand I have been unable to satisfactorily distinguish the rock ptarmigan of the Alaska peninsula from those of Unalaska island. (*Osgood.*)

302*c*. Turner Ptarmigan.

Lagopus rupestris atkhensis (TURNER) NELSON. 1883.

This ptarmigan is quite plentiful on Atka, Amchitka and Attu islands; it frequents the lowlands and hills of the western islands of the Aleutian chain. The nest is built amongst the rank grasses at the bases of the hills and lowlands near the beach. (*Turner.*)

302*d*. Townsend Ptarmigan.

Lagopus rupestris townsendi ELLIOT. 1896.

Kyska and Adak islands, Aleutian chain. The specimens, a male and female, upon which this sub-species is founded were taken on the 8th June, 1894, on Kyska island, and on the 4th July, 1893, on Adak island, by Mr. Townsend. (*The Auk*, Vol. XIII, pp. 26–29, 1896.)

302*e*. Evermann Ptarmigan.

Lagopus evermanni ELLIOT. 1896.

Seven specimens, five males and two females, from Attu island, one of the Near Island group, brought by Prof. B. W. Evermann, Mr. C. H. Townsend and Dr. S. I. Call are all the representatives of this species yet obtained. The specimens described were taken in May 1892, and June 1894. (*The Auk*, Vol. XIII, pp. 24–26, 1896.)

303. Welch Ptarmigan.

Lagopus welchi BREWST. 1885.

A truly alpine species in Newfoundland, rarely found below the line of stunted black spruce. (*Reeks.*) When Mr. Reeks wrote as above he believed this form to be the common rock ptarmigan. Since then Mr. William Brewster, of Cambridge, Mass., obtained specimens from Newfoundland, collected in 1883 by Mr. Welch, which led him to separate this form from the rock ptarmigan. Mr. Brewster says that according to Mr. Welch these ptarmigan are numerous in Newfoundland, where they are strictly confined to the bleak sides and summits of rocky hills and mountains in the interior. Unlike the willow grouse of that island, which wander long distances and frequently cross the gulf to Labrador, the rock ptarmigan are very local, and for the most part spend their lives on or near the hills where they were reared.

304. White-tailed Ptarmigan.

Lagopus leucurus SWAINS. & RICH. 1831.

Mr. Drummond obtained four specimens of this bird in lat. 54°, and another was obtained nine degrees further to the north by Mr. Macpherson. They inhabit the summits of the Rocky mountains. (*Richardson.*) North on the Mackenzie to Lapierre House in the mountains. (*Ross.*) Observed on the mountains above timber line both east and west of McLennan river, lat. 54°, B.C., in July and August of 1898; not rare on the mountains along the Chilliwack river, B.C. (*Spreadborough.*) Summits of most of the mountains of the mainland; Beaver pass, Mr. George Hyde; Cassiar, Mr.

James Porter. (*Fannin.*) Resident on mountain tops; the only species of ptarmigan observed in the Cariboo district in winter. (*Brooks.*) Chapman refers summer specimens collected by Osgood at Glacier bay and White pass to true *leucurus*, Cook inlet specimens to *peninsularis*.

Breeding Notes.—This species was found on the summits of all the western mountains which have been ascended by the writer. On July 18th, 1887, a hen bird with a brood of chicks was found at an altitude of 6,000 feet on Mount Arrowsmith, Vancouver island; on August 8–12th, 1889, numerous broods were seen on the Gold range, B.C., at an altitude of 7,500 feet; on August 24th, 1885, three large broods were seen on the summit of Avalanche mountain, near Glacier, B.C.; and lastly a brood was seen on the summit of Sulphur mountain, close to Banff, Rocky mountains, on September 1st, 1897. In all the cases cited, the birds were quite tame and the chicks had no apparent fear. In only one case was the nest found. It was a slight depression by a large stone with a lining of grass and a few feathers.

304*a*. Kenai White-tailed Ptarmigan.

Lagopus leucurus peninsularis Chapman. 1902.

Described from twenty-six specimens collected by Figgins in the Kenai mountains, Alaska.

One specimen taken at Bear creek, Cook inlet, Alaska; said to be found in a few restricted localities in the mountains on the northwest side of Lake Clark, Alaska peninsula. (*Osgood.*)

CXXXII. TYMPANUCHUS Gloger. 1842.

305. Prairie Hen. Pinnated Grouse.

Tympanuchus americanus (Reich.) Ridgw. 1886.

In the first week of May, 1886, one specimen was shot on Hamilton beach; from various sources I have learned that this species is still seen along the southwestern frontier of Ontario, but their numbers are decreasing. (*McIlwraith.*) Mr. Fleming does not believe that the specimen recorded by McIlwraith was a native bird or that it ever came as far east as Lake Ontario. Mr. E. T. Seton in his *Birds*

of Manitoba gives a circumstantial account of the introduction of this bird into Manitoba, and shows that its first recorded appearance was in 1881 when one specimen was shot near Winnipeg. In the autumn of 1882 one specimen was shot at Portage la Prairie. From that time on it became more and more abundant in Manitoba, and in the autumn of 1895 the writer saw one in the flesh killed at Indian Head, Sask. This species seems to be a true prairie bird as observers speak of it always being found in the open, even in the severest weather.

Rapidly increasing in numbers with the spread of settlement in Manitoba and the west preferring cultivated lands. It is resident wherever found and will scratch through a considerable depth of snow for food in stubble fields and on ploughed lands, seldom feeding in the bush from wild food. I have specimens from southern Saskatchewan where the bird is making its way in from Dakota. (*Atkinson.*) This bird has to a large extent taken the place of the sharp-tailed grouse in Manitoba. Nests have been found in long grass and in stubble fields. (*Criddle.*)

CXXXIII. **PEDIŒCETES** BAIRD. 1858.

308. Northern Sharp-tailed Grouse.

Pediœcetes phasianellus (LINN.) ELLIOT. 1862.

One specimen taken at the Saguenay river; another was exposed for sale in the market of Quebec, 1887; Mr. Cooper says it has been taken in the valley of Lake St. John. (*Dionne.*) Reported as being found on the market at Sault Ste. Marie by Mr. Bampton. (*McIlwraith.*) Only one observed during the trip to Labrador in 1896. This specimen was shot, June 18th, a short distance south of Fort George. Said to be common at Moose Factory and Fort George in winter. Common on James bay from the mouth of Hannah river to East Point. Young able to fly July 8th, 1904. On Oct. 13th, 1896, a specimen was brought to me at Beaumaris, Muskoka lake, Ont. It had been killed within a mile of the place. Shortly afterwards I heard of two more being taken by Mr. Fraser, of Port Cockburn, at the head of Lake Joseph. Also of one or more at Bracebridge and several at Parry Sound. The bird I handled was a very dark bird and it is evidently to be classed with the northern variety. Since the above captures I have not heard

of any other birds being taken in Muskoka district. (*Spreadborough.*) Two males taken at Norway House, Lake Winnipeg, June 18th, common there in September. Downy young taken at Oxford House and old birds at Echimamish. (*Preble.*) According to Bishop Newnham, the sharp-tails arrive at Moose Factory, James bay from the northeast. They frequently stay all winter and leave in the spring. At Lake Abitibi they are said to occur pretty regularly in October. On Lake Temiskaming they do not seem to occur regularly, though the bird is frequently found there in October. (*J. H. Fleming.*)

Mr. A. P. Low puts its northern limit in Labrador at lat. 57°. It has been killed in winter at Great Whale river. Since the building of the Canadian Pacific railway this bird has been seen frequently on the line between Mattawa, on the Ottawa river, and Fort William, west of Lake Superior. It has been supposed to be the prairie species working east, but its dark colour shows that it is the northern bird. It is extremely probable that in coming years it will be a common species in the sparsely settled parts of northern Ontario.

The northern limit of the range of this grouse is Great Slave lake, on the 61st parallel. It abounds on the outskirts of the Saskatchewan plains, and is found throughout the wooded districts of the Northwest Territories. (*Richardson.*) This grouse breeds in the pine forests on both sides of the Lockhart and Upper Anderson rivers, where one or two nests were met with. (*Macfarlane.*) The form occuring at Quesnel, B.C. is apparently the typical northern species. (*Brooks.*) This bird is mentioned by Dall as a not uncommon species at Fort Yukon and for 200 miles down this river to the Ramparts, below which it was not found. (*Nelson.*)

Breeding Notes.—These birds keep in pairs or small flocks and frequent the juniper plains all the year. The buds of these shrubs are their principal food in winter, as their berries are in summer. They generally remain about the same spot, unless disturbed; their flights are short. They frequently walk on the ground and when raised will fly to the top of an adjacent tree. In June they make a nest on the ground with grass and feathers. They lay from four to seven white eggs with coloured spots. (*Hutchins* vide *Seton.*)

308*a*. Columbian Sharp-tailed Grouse.

Pediœcetes phasianellus columbianus (Ord) Coues. 1872.

An abundant resident east of the Coast range. I found this bird very abundant along the Cariboo road, from Pavillion mountain to the 108-mile post. (*Fannin.*) Common in some places in the interior, but said by settlers to be constantly diminishing in numbers. (*Streator.*) Seen at Midway, Meyers creek, Similkameen river and Lake Osoyoos, southern B.C., in 1905, young hatched by May 2nd. Common among the sage brush at Penticton, B.C. I found the males in bands of 10 to 25 dancing all through April, 1903. I shot five and all were males which leads me to think that the females take no part in the dance. Not uncommon at Spence Bridge and Kamloops, B.C. in 1889. (*Spreadborough.*) Abundant at 150-mile House, B.C.; scarce at Quesnel. Those taken at the latter place show a close approach to typical *phasianellus*. (*Brooks.*)

308*b*. Prairie Sharp-tailed Grouse.

Pediœcetes phasianellus campestris Ridgw. 1884.

This form is very abundant from Manitoba westward. It has been taken in the foothills but not high up in the mountains. We have arbitrarily, and without seeing the specimens, referred all prairie records here.

Common in the broken woody country, essentially a bird of small bluffs and usually nesting close to bushes, laying from 10 to 24 eggs. At the approach of winter a large percentage of these birds retire to the more wooded country and to the low sand-hills near Aweme, Man. (*Criddle.*) Very abundant at Indian Head, Sask., found feeding in stubble fields and around old straw-stacks. The males collect in large numbers on some hill about the end of April or beginning of May to have their annual dance which they keep up for a month or six weeks. It is almost impossible to drive them away from one of their hills when they are dancing. One day about the middle of May, I shot into a dancing party killing two and wounding another which flew a short distance. I went to get it and before I got back to pick up the dead birds the others were back dancing around them, I fired into them again, killing two and in less than five minutes they were back dancing again as though

nothing had happened. The furthest west I have seen these birds was 25 miles west of Edmonton, Alta. and on the Peace River prairies, Atha. (*Spreadborough.*) Abundant from Portage la Prairie northwestward to Edmonton, Alta. This bird and the pinnated grouse do not agree well together. (*Atkinson.*) Very common in willow thickets and other low underbrush near Crane lake, Bear lake, and Cypress hills, Sask. (*Bishop & Bent.*)

The prairie sharp-tailed grouse is of comparatively recent introduction in Ontario, coming east after the building of the Canadian Pacific railway and occurring at Port Arthur and possibly elsewhere. (*J. H. Fleming.*)

BREEDING NOTES.—The nest of this species is placed in the long, rank grass under some tuft that will aid in its concealment, and is usually not far from a tract of brush-land or other cover. It is little more than a slight hollow in the ground, arched over by the grass. The eggs are usually fourteen, but sometimes fifteen or sixteen in number. Immediately before expulsion they are of a delicate bluish-green; on being laid they show a purplish grape-like bloom; after a few days exposure they become of a deep chocolate brown, with a few dark spots. After a fortnight has transpired they are usually of a dirty white; this change is partly due to bleaching, and partly to the scratching they receive from the mother's bill and feet. (*Seton.*) Our eggs of this species are exactly the size of the upland plover, being 1.75 x 1.25.

CXXXIV. **CENTROCERCUS** SWAINSON. 1831.

309. Sage Grouse.

Centrocercus urophasianus (BONAP.) SWAINS. 1831.

In June, 1895, while the writer was making an examination of the prairie region north of the International boundary between Wood mountain, Sask., on the east and Chief mountain in the west, special efforts were made to map out the range of the sage hen. It had been found in the valley of Frenchman river by the Boundary Commission in 1874, where it was recorded by Dr. G. M. Dawson. On June 14th we went into the "Bad Lands," south of Wood mountain and had the good fortune to come upon about a dozen males where there was a little sage brush (*Artemisia cana.*)

They all escaped and a whole day was spent trying to locate the females but none was seen. A week later we reached the valley of the White Mud or Frenchman river, a tributary of the Missouri, and before an hour had seen a number of old birds with young, and located a nest under sage brush where the chicks were just emerging from the shell. From this nest I obtained two nearly perfect eggs. Specimens were procured and later we traced the birds up the valley of the White Mud to its source in the Cypress hills. In no case was any bird found away from *Artemisia cana*. At Osoyoos lake where the species has been taken, the true sage brush (*Artemisia tridentata*) occurs in some quantity. We saw no signs of this species in the upper Milk river valley although we travelled along it for more than 100 miles.

The only sage grouse we recorded was seen by Mr. C. S. Day, one of our party near Skull creek, Sask., June 9th, 1905. (*A. C. Bent.*) Three specimens were taken by Mr. G. B. Martin, M.P.P., at Osoyoos lake, B.C., in October, 1864. Mr. Charles de B. Green, writing from Osoyoos, March 21st, 1896, said he had two most reliable reports of the occurrence of sage hens in this locality. (*Fannin.*)

Family XXVI. **PHASIANIDÆ** Pheasants, Turkeys, &c.

CXXXV. **MELEAGRIS.** Linnæus. 1758.

310*a*. **Wild Turkey.**

Meleagris gallopavo silvestris (Vieill.) Allen. 1902.

Wild turkeys were formerly quite common in southwestern Ontario, but are now getting rare. In 1880 Dr. Garnier, of Lucknow, killed two males "at Leguis farm near Mitchell bay," and in 1884 saw a dead female at Chatham station which had just been killed. (*McIlwraith.*) Last specimen seen alive at Plover Mills, Ont., was in 1870. (*R. Elliott.*) Dr. Brodie says that many years ago (between 1840 and 1850), a well known and reliable hunter saw a flock on the west side of Yonge St. in the township of Whitechurch, near Toronto, Ont.; wild turkeys certainly came as far east as Hamilton and Mr. C. W. Nash was informed by an old resident of Dundas that they were found at one time on a farm, now just outside of the city limits. (*J. H. Fleming.*)

CXXXVI. **PHASIANUS** LINNÆUS. 1858.

Ring-necked Pheasant.

Phasianus torquatus LINN. 1858.

Introduced from China; now thoroughly acclimatized on Vancouver island and portions of the mainland of British Columbia. (*Fannin.*) There were many pheasants in the fields near Victoria in the winter of 1906-1907. I saw as many as 50 or 60 at one time. (*Spreadborough.*)

ORDER COLUMBÆ PIGEONS.

FAMILY XXVII. **COLUMBIDÆ** PIGEONS.

CXXXVII. **COLUMBA** LINNÆUS. 1758.

312. Band-tailed Pigeon.

Columba fasciata SAY. 1823.

Never seen in large flocks in British Columbia. (*Lord.*) A very common summer resident in the coast district; flocks of several hundred have been seen sitting in the trees at one time. (*Streator.*) Irregular through the southern portions of British Columbia; a summer resident; tolerably common. (*Fannin.*) Abundant summer resident in lower Fraser valley. (*Brooks.*) Abundant on the south end of Vancouver island. A summer resident also on the mainland and in the valley of the Fraser river. Saw a number in the trees on the beach at Douglas, B.C., April 17th, 1906, and others in the Chilliwack valley later in the season. (*Spreadborough.*)

CXXXVIII. **ECTOPISTES** SWAINSON. 1827.

315. Passenger Pigeon.

Ectopistes migratorius (LINN.) SWAINS. 1827.

The passenger pigeon is now extinct in Canada. The references which follow show its former distribution. Recent supposed records all probably refer to the next species. In *The Auk*, Vol. XX p. 66 and *The Ottawa Naturalist*, Vol. XX, pp. 236 and 237, Mr. J. H. Fleming gives lists of all the latest records.

At one time breeding in Nova Scotia, but now scarcely if ever seen. (*Downs.*) Very seldom seen in New Brunswick now, but formerly abundant. (*Chamberlain.*) Specimens obtained at Moose Factory, Hudson Bay, by Drexler, August, 1860. Verrill saw a single individual at Heath point, Anticosti, in 1860. (*Packard.*) Fort Churchill, Hudson bay. (*Clarke.*) Charlesbourg, possibly breeds in Quebec. (*Dionne.*) Common migrant in the district of Montreal, in 1862. (*Dr. Hall.*) Transient visitor; scarce. Two were shot the latter end of August, 1883, at Chambly, and one was shot September 15th, 1885, on the spur of Mount Royal; and two were shot at the latter place by myself, one, September 10th, 1886, and the other one September 1st, 1888, both of which are now in my collection of bird skins. Mr. C. W. Johnson, of Lachine, says he shot fifteen wild pigeons in the woods, four miles north of that place on the 9th December, 1888. The specimens I shot appear to be a female and young male bird. I saw a female or immature passenger pigeon in a tree in Mount Royal Park, June 4th, 1891. (*Wintle.*) A summer resident; breeds. (*Ottawa Naturalist, Vol. V.*) I shot a bird of this species about three miles west of Renfrew, Ont., in September, 1888. (*Rev. C. J. Young.*) A few straggling pairs are still seen in southern Ontario where they probably breed, but the large annual migrations have entirely ceased. (*McIlwraith.*) Breeding in an aspen grove at Northwest Angle, Lake of the Woods, Man., 1873. (*G. M. Dawson.*) Has been very rare for a number of years at Aweme, Man. The last individual seen was a male bird on Sept. 21st, 1902. The first arrival in 1899 was April 8th. (*Criddle.*)

This celebrated pigeon arrives in the Northwest Territories in the latter end of May, and departs in October. It annually reaches the 62nd parallel in the warmer central districts, but reaches the 58th parallel on the shores of Hudson bay in fine summers only. (*Richardson.*) North, on the Mackenzie, to Fort Norman; not common. (*Ross.*) Probably now extinct in British Columbia. (*Fannin.*)

In *Birds of Manitoba* Mr. Seton shows that it still bred in considerable numbers in northern Manitoba, as late as 1887. While making an exploration in northern Manitoba, in the summer of 1881, the writer had the good fortune to discover a small breeding

place of these birds on the 23rd June. It was on the left bank of the Waterhen river, a deep stream which connects Lake Manitoba with Lake Winnipegosis. There were less than a score of nests which were variously placed, some of them less than ten feet from the ground, and not in large trees. They were such flimsy structures that the eggs were clearly seen through the interstices from below, and one old bird was shot as she sat. Only two eggs were taken.

In the latter part of August and early in September of the same year, on the Swan river, above Livingstone, and also on the upper Assiniboine, we saw large flocks and as food was scarce we shot large numbers for the pot. The low flats along the river were covered with *Cornus stolonifera*, and on the ripe berries of this shrub they were feeding.

CXXXIX. **ZENAIDURA** Bonaparte. 1854.

316. **Mourning Dove.**

Zenaidura macroura (Linn.) Ridgw. 1885.

Appears to be becoming common. A few killed every year in Nova Scotia. (*Downs.*) Several records and captures in Nova Scotia, most often in October. (*H. F. Tufts.*) Occasionally taken in New Brunswick. (*Chamberlain.*) Taken at Chateau Richer, Montmorency county; three specimens at Godbout, one at St. Joachim, and one at Quebec. (*Dionne.*) One killed in the district of Montreal, in June, 1838. (*Dr. Hall.*) The mourning dove breeds sparingly throughout southern Ontario. (*McIlwraith.*) Regular summer resident at Toronto, Ont., never very common. (*J. H. Fleming.*) I met with this species in Leeds county, Ont., on two occasions and more recently (1903) in the township of Oso, north Frontenac. A few pairs breed there; one nest was placed in a large stump. More common to the west of London, Ont., than in its vicinity. Sometimes comes into the outskirts of the city and breeds in gardens. (*W. Saunders.*) Occasionally seen in winter at Plover Mills, Ont. (*R. Elliott.*)

Has become quite common at Aweme, Man., within recent years. Flocks of a hundred or more are not uncommon. (*Criddle.*) In-

creasing in numbers in Manitoba and the west with the increase of settlement. Very abundant along the Assiniboine river, and in 1906 noted regularly and in considerable numbers as far west as Yorkton, Sask., but not beyond that point. (*Atkinson.*) A few stragglers, males, seen at Indian Head, Sask., in the spring of 1892. One seen on the trail between Lesser Slave lake and the Peace river in 1903. (*Spreadborough.*) Common, breeding in the timber on Maple creek and Skull creek, Sask. (*A. C. Bent.*) Maple creek, Cypress hills and Big Stick lake, Sask., and MacKay creek, Alta. (*Bishop.*) This bird is increasing rapidly in Manitoba and the Northwest.

Never seen in large flocks in British Columbia. (*Lord.*) Not uncommon in the interior; more were seen near the coast. (*Streator.*) Saw one at Chilliwack lake, B.C., a few at Trail, Columbia river, B.C., two at Osovoos lake and several on the Similkameen river. (*Spreadborough.*) Mainland and Vancouver island; nowhere common. (*Fannin.*) Tolerably common summer resident in the lower Fraser valley; scarce in southern parts of Cariboo district. (*Brooks.*) The writer has found this bird numerous at only two points, between Manitoba and the Pacific coast. These were Medicine Hat, Sask., and Spence Bridge, B.C. In both places they were evidently breeding but no nests were taken.

Breeding Notes.—A tolerably common summer resident near Portage la Prairie, Man., breeding in small wild plum trees. It arrives about the first of May. Nest found containing two eggs, on which the bird was sitting, June 7th, 1885. (*Nash* vide *Seton.*) On July 1st, 1899, Mr. Robert Fraser, of Plover Mills, Ont., found a nest of this species in the middle of his clover meadow. This is the first that has come under my notice of this bird nesting on the ground. I examined the nest and saw the shells of two eggs. Nest a poor affair of a few small twigs. (*R. Elliott.*) These birds have two or three broods in a season, usually building a frail nest of sticks in a bush or tree, three or four feet from the ground, in which they lay two white eggs. Nests late in the season are much more compactly built and are lined more or less with the inner bark of aspens. These birds are very fond of salt. (*Criddle.*)

RAPTORES. Birds of Prey.

Family XXVIII. CATHARTIDÆ. American Vultures.

CXL. GYMNOGYPS. Sesson. 1842.

324. California Vulture.

Gymnogyps californianus (Shaw) Sesson. 1842.

A rare visitant at the mouth of the Fraser river, B.C., apparently attracted by the dead salmon.

In September, 1880, I saw two of these birds at Burrard Inlet. (*Fannin.*) This species was said by David Douglas to be a common species as far north as the 49th parallel in 1826. At that time it was extremely abundant in the valley of the Columbia between the Grand Rapids and the Pacific. (*Richardson.*) Seen on Lulu island (in the Fraser river near its mouth) as late as "three or four years ago" by Mr. W. London. None seen since 1892. (*Rhoads.*) On the 10th September, 1896, I saw between Calgary and the Rocky mountains two fine specimens of the California vulture. (*J. Fannin* in *The Auk*, Vol. XIV, p. 89.) As the specimens were not collected we are inclined to doubt the occurrence of this species so far east.

CXLI. CATHARTES. Illiger. 1811.

325. Turkey Buzzard.

Cathartes aura (Linn.) Spix. 1825.

A turkey buzzard was shot in 1905 near Renews, not far from the whale factory at Aquaforte, Newfoundland. (*Wm. Brewster.*) Mr. John Crowell informs me that he has taken a specimen at Seal island, Yarmouth county, N.S. (*H. F. Tufts.*) Accidental in New Brunswick. One was taken in Victoria county and is now in the Crown Lands Department at Fredericton. Another was observed the same spring but no dates were given. (*W. H. Moore.*) One specimen recorded as taken in New Brunswick by Mr. Boardman. (*Chamberlain.*) About 10th January, 1884, some farmers in the neighbourhood of Nequac, an Acadian village on the northern

shore of Miramichi bay, New Brunswick, observed what they took to be a stray turkey feeding almost daily around their houses and farm yards. The imposture was discovered when it was found feeding on a dead sheep, and it was killed on the 29th of the same month. Towards the middle of September, 1886, I was astonished to learn that another turkey buzzard had been captured by Mr. David Savoy, of Black Brook, about 20 miles from Nequac in a direct line. I am also informed by a gentleman who saw the bird after it was killed that a turkey buzzard was shot five years ago in the vicinity of Kingston, Kent co. (*Philip Cox, jr.*, in *The Auk*, Vol. IV, 205.) The Bishop of Moosonee informed me that a specimen was taken at Moose Factory, on James bay, in June, 1898, by one of his men. Accidental near Toronto, Ont. One was killed in the township of Pickering (about 30 miles east of Toronto) in 1887. (*J. H. Fleming.*) As far as I am aware this species has been observed only in the southwestern part of the province of Ontario; Mr. Wagstaff writes that he has frequently seen it in Essex co. and once at Baptiste creek, some years since. (*McIlwraith.*) Mr. John Sullivan of Kerwood, Lambton co., has found the nest of this bird, and as it is common in the three western counties it doubtless breeds in fair numbers. I once saw 19 individuals in a single field at Forest, Ont. (*W. E. Saunders.*) In Upper Canada near Sandwich and Lake St. Clair, in 1823, I saw vast numbers of *C. aura* and had every opportunity of watching their habits. (*David Douglas.*) The above extract taken from Richardson's *Fauna Boreali Americana* shows the change that has taken place since then.

Very rare in Manitoba. May possibly breed at Aweme, Man. (*Criddle.*) This bird is a regular summer resident about Portage la Prairie and generally throughout Manitoba where it is a daily visitor at the slaughter houses and refuse dumping grounds. (*Atkinson.*) A tolerably common summer resident in many parts of the prairie region extending from Winnipeg, Man., to the Rocky Mountains. Seton, in his *Birds of Manitoba*, says that it breeds near Qu'Appelle, and as others have seen it in pairs it doubtless breeds in other localities. In May, 1895, the writer found it breeding near Home's Ranch at the mouth of Old Wives creek in eastern Saskatchewan. In June of the same year a few pairs were seen in the Cypress hills at Farewell creek, and occasional birds were noticed at Medicine Hat, Crane lake, at West Butte and along the Milk river; three were

seen at different times at Edmonton, Alta., in May, 1897, by W. Spreadborough. One was seen at Banff in 1891, and they were seen in numbers at Deer Park on the Columbia river in June, 1890; a few observed at Vernon, B.C., in July, 1889. (*Macoun.*) A few seen sailing over the timber on Skull creek, Sask., June 5th, 1905, and June 25th, 1906. (*A. C. Bent.*) Distributed throughout British Columbia, but nowhere common, though in September, 1887, I saw about a dozen together at the mouth of Harrison river. (*Fannin.*) One seen at Nanaimo, July 11th, 1893, and in the autumn of 1889 about a dozen at Victoria, Vancouver island; saw two at Elko, B.C., May 2nd, 1904; one at Sidley, B.C., May 15th, 1905, and found it common on Lake Okanagan, B.C., in 1903; in June, 1901, eight were seen at Chilliwack, B.C., and one in 1906. (*Spreadborough.*) Fannin, on page 34 of the catalogue of the museum at Victoria, B.C., describes two vultures in the park at Beacon hill. He has since written me that they proved to be this species.

Breeding Notes.—I never saw the turkey vulture in Manitoba, but have often seen it in Saskatchewan, where it breeds. A set of two eggs in my collection was taken near Moose Jaw, Sask., May 12th, 1897. I also found it breeding at Rush lake in May, 1893. It lays two eggs on the ground, usually on the sloping bank of a stream. (*W. Raine.*) Nest on the ground or in a hollow log or stump. (*McIlwraith.*)

CXLII. **CATHARISTA** Vieillot. 1816.

326. **Black Vulture.**

Catharista urubu Vieill. 1817..

About half a dozen specimens taken near St. Stephen, N.B., by Mr. Boardman. (*Chamberlain.*) A black vulture was shot at Pugwash, Cumberland county, N.S., on Jan. 12th, 1896, and was brought to Halifax where I identified it. (*Harry Piers* in *The Auk*, Vol. XV, 1896.) On the 28th October last a black vulture was killed on the beach at Beauport, about six miles from Quebec; the bird was flying towards carrion. This is, I believe, the first record of a bird of this species being found so far north. It was an adult male. (*C. E. Dionne* in *The Auk*, Vol. XV, 53.)

FAMILY XXIX. **FALCONIDÆ**. FALCONS, HAWKS, EAGLES, &c.

CXLIII. **ELANOIDES** VIEILLOT. 1818.

327. Swallow-tailed Kite.

Elanoides forficatus (LINN.) COUES. 1875.

Casual. One specimen was observed through a glass by Mr. G. R. White, perched on a flag-staff at the rifle range at Ottawa prior to 1881. (*Ottawa Naturalist*, Vol. V, p. 38.) Mr. Hay reports one as having been seen at Port Sidney, Ont., on July 15th, 1897; it sailed several times about his place, and was distinctly seen. I have also an old specimen taken many years ago in Ontario. (*J. H. Fleming.*) Only one individual has been seen at Aweme, Man., in 23 years. (*Criddle.*)

CXLIV. **CIRCUS**. LACÉPÈDE. 1801.

331. Marsh Hawk. Marsh Harrier.

Circus hudsonius (LINN.) VIEILL. 1807.

Rare in Newfoundland. Only once seen at Cow head. (*Reeks.*) Rather uncommon at Humber river, Newfoundland. (*Louis H. Porter.*) Audubon saw it in Labrador. (*Packard.*) The following are our most northern references to this bird: Spreadborough found it abundant on both sides of James bay in July and August, 1904; Preble saw it at York Factory and Fort Churchill; Dr. Robert Bell records it from York Factory, Hudson bay; Clarke mentions its occurrence at Fort Churchill, on the west side of the bay, and Richardson places its northern limit at Great Bear lake, in lat. 65°. Bernard Ross, on the other hand, places its northern limit at Great Slave lake, and says that it is scarce there.

It is a summer resident and generally distributed in Prince Edward Island, Cape Breton Island, Nova Scotia, New Brunswick, Quebec and Ontario, and is very abundant throughout the whole prairie region, breeding as far north as Great Bear lake.

Rare in the mountains, but not uncommon in the Columbia valley from Revelstoke south. Rather common westward, and becoming abundant at Sicamous and westward to Spence Bridge,

B.C. (*Macoun.*) Seen at Penticton, Meyers creek and Sidley, B.C. (*Spreadborough.*) Abundant on the mainland of British Columbia at Sumas, Chilliwack, mouth of the Fraser, and east of the Coast range. Partially migratory. A few are found throughout the winter in the neighbourhood of Ladner's, near the mouth of the Fraser. (*Fannin.*) Observed in winter at Lake Okanagan, B.C. (*Brooks.*) Noted at every stopping-place in British Columbia. Nowhere abundant. (*Rhoads.*) These birds are numerous throughout northern Alaska during the migrations. They are seen frequently along the barren coast of Bering sea, and have been recorded as rather uncommon in the interior. (*Nelson.*) This bird appears to be a resident of the Yukon district only between the early part of April and late November. The species is a rare summer visitor on Attu island. (*Turner.*) I saw this species at Cape Blossom, Kotzebue sound, Alaska, on two occasions. Marsh hawks were frequently noted at our winter camp on the Kowak the last of August. (*Grinnell.*) Seen at several places in the interior of Yukon and Alaska in 1899. One was seen at Homer, Alaska, and another at Hope, in 1900. Noted at Nushagak, and by the Chulitna and Kakbitul rivers, Alaska peninsula. (*Osgood.*) Hawks are not common in the Cook inlet region, Alaska. This species is probably the most common. It was seen at all points visited. (*Figgins.*)

Breeding Notes.—This species breeds frequently in the neighbourhood of Ottawa. Its nest is composed of dry grass with a few dry sticks, probably to strengthen it. There is an inner lining of feathers few and far between to form a bed for the eggs, which are from four to six in number, of a dull white with the faintest shade of green and soiled, but no decided spots on them. The nest is built on the ground, or at the base of a low bush near a marsh, about the middle of May. (*G. R. White.*) Besides in the large marshes and the small ones, this bird will even breed in an uncultivated field at times, and is, if anything, more common than formerly. Nest on the ground, among shrubs, generally in a swampy place. Eggs four or five, white, rapidly soiled. (*W. E. Saunders.*) An abundant breeding species everywhere throughout Manitoba and west through Manitoba, Saskatchewan and Alberta. Noted breeding in all stages of plumage from reddish brown of first year to blue of mature birds, but also note that pairs are always alike in plumage. I never saw a red marsh hawk with a blue mate. (*Atkinson.*)

This is a well-distributed summer resident in the counties of Renfrew, Leeds and Lanark, in eastern Ontario. It arrives in the early part of April and does not leave until October. I have found its nest, on several occasions, in marshy places. Once in a small marsh, township of Escott, Leeds county, near a public road. This was on the 22nd May, 1893. The nest contained five eggs almost as much spotted as those of the red-shouldered hawk. The nest was built on the end of an old log that was partly covered with moss and other growth and surrounded by rushes. It was formed of sticks, and grass stalks were used for lining. This species breeds every year at the head of Wolfe island and lower down the St. Lawrence. Its eggs are seldom laid before May 18th in eastern Ontario. (*Rev. C. J. Young.*) Breeds in abundance on the prairies, but prefers bushy places for nesting in. Its nest is built on the ground, of sticks and lined with coarse grass. Mr. Spreadborough found two nests near Medicine Hat in May, 1894. Both were located amongst a low growth of snow-berry (*Symphoricarpus racemosus*) and contained four eggs. (*Macoun.*)

I have found this bird breeding throughout Manitoba, Saskatchewan and Alberta. It makes its nest on the ground, consisting of a heap of marsh hay, and lays from five to seven eggs. I took a set of five eggs at Crescent lake, Sask., on June 5th, 1901. I have another set of seven eggs taken in northern Alberta, May 24th, 1898. (*W. Raine.*)

In June, 1865, an Eskimo snared a female bird on her nest in a willow bush along the lower Anderson river, about lat. 68° 30′. It contained five eggs. In June, 1866, a nest composed of twigs and grasses, &c., was found in a similar position; there were six eggs in this nest. (*Macfarlane.*)

CXLV. **ACCIPITER**. Brisson. 1760.

332. Sharp-shinned Hawk.

Accipiter velox (Wils.) Vigors. 1824.

This is one of the commonest hawks we have in the greater part of the Dominion.

Spreadborough saw only one, when exploring, in northern Labrador, July 8th, 1896. Richardson records the taking of one at

Moose Factory on James bay, and Fieldon records one taken by Captain Markham near York Factory in August, 1886. These records cover our knowledge of its occurrence in the Hudson bay region, though Preble saw it at Norway House, Oxford House and Hill river. Reeks and Porter record it as a common summer resident in Newfoundland, the writer found it common on Prince Edward Island, Downs and Tufts say it is equally so in Nova Scotia and Chamberlain says it is the commonest hawk in New Brunswick. All observers agree that in Quebec and Ontario it is a common summer resident. Seton makes it a common species in the wooded parts of Manitoba, and the writer found it everywhere on the prairie regions where there was brush or trees. Ross says it is common on the Mackenzie to lat. 62° at Fort Simpson. With the above records we are safe in saying that it is found in all the wooded country south of lat. 60°. Our mountain records show that it is common at Banff and in the whole valley of the Columbia, more especially at Revelstoke and Arrow lakes, also in the valley of the Thompson river, from Eagle Pass to Kamloops, but in southern British Columbia, it is apparently not so common. Fannin and Brooks report it common west of the Coast range in British Columbia, while the writer and Mr. Spreadborough found it common on Vancouver island. Turner and Nelson say that it is common in the wooded parts of Alaska, straggling northward into the tundra.

Two small hawks, supposed to be this species, were seen at Skidegate, Queen Charlotte islands, July 12th, 1900. Mr. Keen reports its occurrence at Massett. One specimen was seen in battle with a pair of ravens at Malchatna river, Alaska. (*Osgood.*) Seen occasionally in the timber belt at Homer, Alaska. (*Figgins.*) Several sharp-shinned hawks were seen about our winter quarters on the Kowak, Kotzebue sound, Alaska, the last week in August. Noted on several occasions on wooded mountain sides at Sitka, Alaska. Noisy young were following their parents on August 5th, 1897. (*Grinnell.*)

Breeding Notes.—In the vicinity of Ottawa this species generally builds about the end of May or first of June in a hemlock tree, about twenty feet from the ground. The nest is made of dry sticks, lined with some kind of bark and nearly resembles a crow's nest. The eggs, four or five in number, are white with a slight purplish

tint marked with splashes of various shades of brown. (*G. R. White.*) This species breeds, in small numbers only, in the vicinity of London, Ont. The nest is usually in pine trees and the eggs four to six. (*W. E. Saunders.*) Frequently seen in Ontario, but an uncommon breeder. I have seen two nests, both built in hemlock trees, the first in Leeds county, about twenty feet from the ground; the second one on an island in Sharbot lake, Frontenac county, which, on June 6th, 1905, contained four fresh eggs. (*Rev. C. J. Young.*) A nest of this species was taken at the corner of Dow swamp, near the canal, close to the city of Ottawa, July 6th, 1900. It was in a balsam fir, about fifteen feet from the ground, built of sticks, and lined with cedar bark (*Thuya occidentalis*). It is quite common in Saskatchewan, and a number of nests were taken in June, 1895. On June 12th, a nest was taken in a willow thicket at the police station, Wood mountain. It was in the crotch of a willow, less than ten feet from the ground, built of sticks and lined inside with finer material of the same character. There were four eggs partly incubated, light greenish in colour and heavily spotted with brown. Another nest, in a spruce tree, was taken, built of the same class of material, on Farewell creek, Cypress hills, June 27th. In this nest the eggs were half incubated. (*Macoun.*) I have clutches of eggs of this little hawk taken near Toronto, also others taken in Muskoka, Manitoba and Saskatchewan. It builds its nest in tree-tops and lays from four to six handsomely marked eggs. (*W. Raine.*) This bird has always been regarded as a rare summer resident near London, Ont., but during the summer of 1900, six nests were found by three observers, and it may prove to be more common than was supposed. Its silent, unobtrusive manners may have been its shield from observation. These nests, as well as four others taken in previous years, were all in conifers, five of the ten being in tamarac. All of them were built of twigs, and many had a few flakes of bark as a lining. One nest was on an old foundation, but all the others were entirely new. In height from the ground they varied from fifteen to thirty feet. The birds were in some cases fairly silent and peaceful, and in others very noisy and aggressive; in one case particularly the male would attack a man 100 yards distant, although the nest was not found. All the sets of eggs taken, varying from three to six to the set, are very handsome, particularly one set of six fresh eggs, in which the colour of the

markings is a very bright reddish brown. (*W. E. Saunders.*) Tolerably common at Aweme, Man., nesting in low trees about four to twelve feet from the ground. (*Criddle.*) Osgood found a nest of this species about fifteen feet from the ground in a small spruce near the centre of an island near Nordenskiold river, Alaska. (*Bishop.*)

333. Cooper Hawk.

Accipiter cooperii (BONAP.) GRAY. 1844.

This species is either unequally distributed or not readily separated from other species by observers.

An uncommon summer migrant in Newfoundland. (*Reeks.*) Very scarce in Nova Scotia. Col. Egan procured and mounted one specimen. (*Gilpin.*) Not common at Wolfville, Kings county, N.S.; absent in winter. (*H. F. Tufts.*) Seen on Cape Breton island, N.S. (*Townsend.*) A pair seen in Brackley point woods, Prince Edward island. (*Macoun.*) An uncommon summer resident in New Brunswick. (*Chamberlain.*) Common in the Restigouche valley, and sparingly distributed through the whole St. Lawrence valley and westward throughout Ontario. (*Macoun.*) Rare migrant at Toronto, Ont. (*J. H. Fleming.*) One seen on the Hayes river, Keewatin. (*Preble.*) Rather rare; evidently breeds at Aweme, Man. (*Criddle.*) This species is a summer resident in Manitoba, and extends north to the Saskatchewan. (*E.T.Seton.*) I have a mature bird, taken on April 25th, 1896, at Banff, Alberta. (*J. H. Fleming.*) Apparently rare in the Rocky mountains. Not common in the Columbia valley, but was taken at Revelstoke, May 5th, 1890, and seen later at Nelson, on Kootenay river. (*Macoun.*) Met with, in British Columbia, only at the Ducks, near Kamloops. (*Streator.*) Tolerably common summer resident in the lower Fraser valley. (*Brooks.*) Found both on Vancouver island and on the southern mainland, east and west of the Coast range. (*Fannin.*) Distribution general. Breeding at Lake la Hâche, B.C., and in the Rocky mountains at Field; alt., 7,000 feet; rare. (*Rhoads.*) Saw a pair at Elko, B.C., 1904; a pair at Midway, B.C., April 25th, 1905, and two at Penticton, B.C., in 1903. (*Spreadborough.*) Several seen during the second and third weeks of August at Sitka, Alaska. (*Grinnell.*)

Breeding Notes.—This species comes in April and stays until late in the autumn. Though not common in eastern Ontario, it is met with more frequently than the preceding one. I have seen its nest several times; one in the township of Lansdowne, contained four fresh eggs, on May 8th. Another in a beech tree near Sharbot lake, Ont., resembled the nest of a red-shouldered hawk and contained five eggs, on May 10th. (*Rev. C. J. Young.*) Not a common bird around London, but breeds sparingly in the western part of Ontario. (*W. E. Saunders.*)

334. American Goshawk.

Accipiter atricapillus (Wils.) Seebohm. 1883.

Taken or noted by several collectors in the Hudson bay region. (*Macoun.*) One observed at Seal lake, Ungava district, July 24th, 1896, and another a short distance above Ungava bay, August 23rd, the same year. (*Spreadborough.*) Resident in Ungava district. (*Packard.*) Settlers report the occurrence of this hawk in Newfoundland. (*Reeks.*) This is the commonest hawk in Nova Scotia (*Downs*) and winters, as a pair did at Digby gut in the winter of 1880. (*Gilpin.*) Resident near Wolfville, N.S., but rather uncommon. (*H. F. Tufts.*) Resides in New Brunswick throughout the year and breeds. (*Chamberlain.*) Common winter visitant in Quebec. (*Dionne.*) In Ontario this bird is an irregular winter visitor, sometimes appearing in considerable numbers and again being altogether wanting. (*McIlwraith.*) A tolerably common fall and winter visitant in Manitoba, usually appearing in August. Not seen during the breeding season. (*E. T. Seton.*) Not observed on the prairie or in the Rocky mountains nor in southern British Columbia in summer. Not uncommon at Edmonton, Alta., where they were evidently breeding in June, 1897. Two seen on Bear river, Peace River district, August 14th, 1903. (*Spreadborough.*) Seen only at Vernon in British Columbia. (*Rhoads.*) Rather common in the interior of British Columbia, the coast bird may be the next species. (*Streator.*) Has been taken on Vancouver island and on the mainland east and west of the Coast range. (*Fannin.*) Have taken this form both east and west of Coast range, the only hawk observed in the Cariboo district in winter. (*Brooks.*) Fuller notes on the distribution of this bird will be found below.

BREEDING NOTES.—Permanent resident at Scotch lake, York county, New Brunswick. Breeds. (*W. H. Moore.*) Immature goshawks come regularly to Toronto in the autumn and often remain all winter. Until 1896 full plumaged birds were almost unknown, certainly I was not aware of any records of mature birds for ten or fifteen years previous to that date. In October, 1896 a remarkable migration of mature birds took place. They spread themselves all over Ontario in large numbers, and I believe the New England States were invaded in like manner. I received the first mature bird on October 26th from Toronto, and from then till December the birds continued to come in. The deer hunters reported that the hawks were playing havoc with the partridges and hardly a shooting party returned in November without one or more mature goshawks. I fancy that the sudden inroad of the sharp-tailed grouse into Muskoka and the migration of the goshawks were likely caused by the same necessity—lack of food. Both species appeared in Muskoka together. Never a scarce bird in the districts of Parry Sound and Muskoka; the number of breeding birds has greatly increased since the autumn of 1896. (*J. H. Fleming.*) The only nest I ever saw of this species in Muskoka was in the fork of a large black birch (*Betula lenta*) about forty feet from the ground. It was made of sticks lined with leaves and clay. In it I found four young ones all differing in size, which leads me to think that they are not all hatched at the same time. In the nest I found a bluejay and a hairy woodpecker which had been plucked by the old birds. Beneath a maple log that was lying about 100 yards away from the tree having the nest, and several feet from the ground, I found a large quantity of feathers which the old birds had plucked from barn-yard fowls and other birds. It was evident that the old birds had carried their prey here and picked it before taking it to their young. The nest was within half a mile of Bracebridge, and about 300 yards from the south branch of the Muskoka river. They are more plentiful in Muskoka in winter than in summer. (*Spreadborough.*) A not uncommon bird in winter in Ontario, but as a rule going north to breed. I found a nest of this species near Otty lake, in the county of Lanark, Ont., in 1885. It was a large structure built in the fork of a beech tree, about thirty feet from the ground, and on the 3rd of May contained three almost bluish-white eggs, incubation commenced. In addition to the breeding of this bird in the county of Lanark, Ont., I find that it

nested regularly in the township of Oso in Frontenac county, Ont., up to 1901, but will probably soon cease to do so as the larger timber is rapidly being cleared away. It seems to affect woods where beech and black birch are plentiful, not far, however, from a growth of evergreens. (*Rev. J. C. Young.*)

This bird is generally distributed in the forest country north of the prairie. Richardson records it from Jasper House in the Rocky mountains, and describes one shot from the nest on the Saskatchewan, May 8th, 1827. He also speaks of another taken at York Factory, Hudson bay, August 14th, 1822. Apparently it has the same range yet. (*Macoun.*) This species is confidently believed to breed, in small numbers, however, between Fort Good Hope and the Anderson, Mackenzie district. (*Macfarlane.*) Tolerably common in autumn and winter at Aweme, Man. A few remain to breed. A nest was found high up in a tree containing four fresh eggs on April 29th. (*Criddle.*)

I have eggs from Oak lake and Crescent lake, Sask., and also sets from Alberta. I have a set of two eggs that was taken by Mr. Wenman at Stedman river, Alberta; the female was shot and is now in my collection. I have another set of three eggs collected by Dr. George in northern Alberta, May 10th, 1894. The female of this nest was also shot by Mr. Wenman. Dr. George also took a clutch of four eggs out of this same wood in May, 1893. It makes a large nest of sticks, weeds and roots, and builds in the highest tree tops. The American goshawk is a rare summer resident in northern Manitoba, but is more plentiful in northern Saskatchewan and Alberta. The eggs are bluish white, unmarked, although they are sometimes nest-stained. (*W. Raine.*)

334*a*. Western Goshawk.

Accipiter artricapillus striatulus RIDGW. 1885.

Tolerably common throughout British Columbia. More abundant west of the Coast range. (*Fannin.*) One seen at Sooke, Vancouver island, August 2nd, 1893. On April 10th, 1903, found a pair in a cotton-wood tree at Penticton, B.C. Nest was a bundle of sticks without lining. Shot both birds. Found an egg in the oviduct of the female, fully formed and shell pale blue. (*Spread-*

borough.) This seems to be the form that breeds in southern British Columbia, where I have noticed it in summer as far east as Arrow lakes, Columbia river, in lat. 50°. (*Brooks.*) I found this form very common at Skidegate, Queen Charlotte islands, in August, 1895. (*Kermode.*) Mr. Frobese shot an immature male on August 5th, 1897, at Sitka, and others were seen after that date. (*Grinnell.*) This species was seen in the mountains about Ilianana pass, and daily at the mouth of the Chulitna river, and others were seen at Nushagak in 1902. Frequently seen at Tyonek, Cook inlet, Alaska. (*Osgood.*) One immature male at Sheep creek, Alaska. (*Anderson.*) Some of the British Columbia references under *A. atricapillus* probably should go here.

CXLVI. **BUTEO** Cuvier. 1779-1800

337. Red-tailed Hawk.

Buteo borealis (Gmel.) Vieill. 1816.

We have no records of this species being seen in the district of Ungava (Labrador), but it breeds in Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario. Mr. Spreadborough saw a few specimens on the Missinabi river and on Moose river, near James bay. Preble saw it, evidently breeding, at several places between Lake Winnipeg and Hudson bay, and Dr. Bell took it at Fort Churchill, Hudson bay. This species is abundant in the wooded portions of Manitoba, especially in the Riding mountains, Duck mountains, Porcupine hills and northward to the Saskatchewan. Westward, Spreadborough found it nesting at Indian Head, Sask., also near Peace River landing and Dunvegan, Peace River district., and south along the foothills to Crow Nest pass, but not being a prairie species it disappears with the wood. I agree fully with Seton in his "Birds of Manitoba," when he says on page 529: "This species seems to be the complement of Swainson hawk in Manitoba, adhering to the forest regions, while the latter is found only in the more open places. The differences of habit presented by these two species are slight but quite appreciable."

This species is common in the Northwest Territories, which it visits in summer. Specimens were shot in the Rocky mountains,

on the plains of the Saskatchewan, and at York Factory, Hudson bay, between lat. 53° and 57°. (*Richardson.*) This species is far outnumbered at London, Ont., by the red-shouldered hawk. More common in the more remote districts. (*W. E. Saunders.*)

Breeding Notes.—This is a rare bird along the St. Lawrence. In eleven years I am only certain of having seen one specimen. In the counties of Lanark and Renfrew it is common, and I used to see it every year. It breeds within a few miles of the village of Renfrew and sparingly near Sharbot lake. (*Rev. C. J. Young.*) The red-tail breeds in scattered pairs about one to four of the red-shouldered. It nests a little earlier and lays two to three eggs. (*W. E. Saunders.*) This bird breeds in Welland county and throughout southern Ontario. (*W. Raine.*) On May 31st, 1891, I took a nest of this near Indian Head, Sask. The nest contained three eggs and was built of sticks in a dead poplar (*Populus tremuloides*) about thirty feet from the ground. This species feeds chiefly on gophers and mice. (*Spreadborough.*)

337*a*. **Krider Hawk.**

Buteo borealis kriderii Hoopes. 1873.

High central plains of the United States and probably adjoining British provinces. (*Coues.*) A young bird taken near there, was seen in a taxidermist's shop in Maple Creek, Sask. Bishop thought it was nearer *calurus* than *kriderii*. (*A. C. Bent.*) A careful examination of a specimen collected at Edmonton, Alta., by Spreadborough shows it to be this form, and his notes on the breeding of the red-tailed hawk at Edmonton which were given under *borealis* in the first edition of this catalogue are now placed under *kriderii*. It is more than probable that many of the prairie references given under *borealis* should go here.

Breeding Notes.—At Edmonton, on the North Saskatchewan, in 1897, I observed a number of nests mostly along the river and small streams. These were nearly always in cottonwood trees (*Populus balsamifera*) but I think it is on account of these trees having large branches near the top that they seem to prefer them than from any other cause, as I also observed a few in poplar trees (*Populus tremuloides*) where the branches were suitable for them

to build upon. The nests were scarcely ever less than thirty feet from the ground. In the summer of 1891 it was common at Banff and hence breeds there. (*Spreadborough.*)

337*b*. Western Red-tailed Hawk.

Buteo borealis calurus (CASS.) RIDGW. 1873.

I have obtained from Mr. M. J. Dodds, St. Thomas, Ont., a fine adult of the western red-tail, which was killed near there in the fall of 1885, by Mr. John Oxford. This appears to be the first recorded occurrence of this species in Ontario. (*W. E. Saunders* in *The Auk*, Vol. V., 203.) Mr. J. Hughes-Samuel took a specimen of this form at Toronto on November 4th, 1895. (*J. H. Fleming.*)

Rare; a few seen at Kamloops and Ducks in central British Columbia in June, 1889. (*Streator.*) Very abundant east and west of Coast range. (*Fannin.*) Resident at Chilliwack, B.C., and tolerably common; rather rare in winter at Lake Okanagan. (*Brooks.*) This species was common at Revelstoke, B.C., in the spring of 1890. First observed on the 9th April, and became common before the end of the month; on 30th May two pairs were found nesting on the cliffs at Deer park, Arrow lake, Columbia river, B.C., and a female shot; another nest was found in a cliff at the mouth of Pass creek, near Robson, B.C., 1902; a few were seen near the 49th parallel between Trail and Cascade; observed two at Fernie, B.C., and several at Elko, in 1904, and two at Midway in 1905; seen on Vancouver island at Victoria, 10th September, 1893. (*Spreadborough.*) Distribution and abundance like that of the eastern form. Breeding near the summits of the Rocky mountains at Field, B.C. (*Rhoads.*) There are specimens in the Geological Survey museum which were taken at Agassiz and Lake Shuswap, B.C., in 1889. A solitary individual was seen flying near the head of Cumshewa inlet, Queen Charlotte islands, 1900. (*Osgood.*) A young bird taken near Sitka, Alaska. (*Dr. Bean.*) This is presumably the common hawk of the upper Yukon. (*Bishop.*) In *North American Fauna*, No. 19, p. 73, Bishop gives a full account of the occurrence of this bird in the parts of Alaska traversed by him.

Breeding Notes.—Found a nest in a large bull pine near Fernie, B.C., about 70 feet from the ground, bird sitting, May 14th, 1904. At Sidley, B.C. saw a nest in a western larch about 100 feet from the ground. Nest a large bundle of sticks. (*Spreadborough.*)

339. Red-shouldered Hawk.

Buteo lineatus (Gmel.) Vieill. 1816.

This species may reach Newfoundland occasionally, as it has been taken in Nova Scotia and on Cape Breton island. It is rare in New Brunswick, though Chamberlain says it may breed near St. John. In Quebec it becomes more common, and in the St. Lawrence valley it is far from rare. Quite a common summer resident in Ontario, breeding freely, and extending westward to eastern Manitoba. Our most northern reference is York Factory on Hudson bay, where it was collected by Dr. R. Bell. This seems to be an eastern species with its centre of distribution in Canada, north of Lake Ontario. It is much more restricted in its range than the red-tail.

Have met with these birds occasionally in December and January, and know of at least one having been taken in the latter month. On the 8th January, 1900, I saw two. While wintering they seek the shelter of deep ravines. (*J. Hughes-Samuel.*) This bird is more abundant through western Ontario than the red-tail but they seem to be located in sections and after passing through a red-shouldered section one will come to a red-tailed section. In the immediate vicinity of London the red-shouldered is practically the only big hawk, but about five miles out one begins to meet the red-tailed. The former returns year after year to the same woods, even when the eggs are taken and is most loyal to the nest location. (*W. Saunders.*) Although previously recorded from Manitoba, I have seen but one specimen in the province in ten years, though I have searched constantly and carefully for it. This specimen was noted on the Assiniboine river between Portage la Prairie and Winnipeg in July, 1901. (*Atkinson.*)

Breeding Notes.—This species builds about the middle of April. The nest closely resembles a crow's, but is larger and very untidy. It is composed of coarse sticks loosely placed together with fine ones, and lined with bark of a vine (probably grape vine),

and pieces of rough bark. The nest is placed near the trunk of the tree at from 20 to 60 feet from the ground. The eggs, three or more in number, are yellowish white, with blotches of yellowish brown and slate. A nest found on 30th April near the mouth of the Gatineau river at Ottawa, Ont., was built in a swamp ash (*Fraxinus sambucifolia*) about 20 feet from the ground. The old bird was sitting at that date. (*G. R. White.*) On May 5th, 1906, I discovered a nest in a small wood near Ottawa. It was 20 feet from the ground and made of green pine branches and lined with bark. Outside diameter 24 inches by 5 inches in height; inside diameter eight and five inches by two inches deep. (*Garneau.*) A nest containing three eggs was found in a beech tree about 25 feet from the ground near Hull, Que., May 1st, 1907. (*C. H. Young.*)

Strangely enough this is the most common hawk along the St. Lawrence between Kingston and Brockville, though I never saw it in the counties of Renfrew and Lanark. It seems to just take the section of country where the red-tail is absent. It is an early breeder, returning to the same woods year after year, even though disturbed. It usually builds or repairs a nest in a beech tree, but I have seen nests in maple, ash, oak, pine, elm, and once in hemlock. The earliest eggs I have seen were a set of four on April 14th, 1898, an unusually early date; the latest was May 23rd. The average time of laying is about April 25th; the favourite tree for nesting, a beech. This bird becomes scarce in the northern townships of Ontario. (*Rev. C. J. Young.*) Rather common, breeding in all suitable woods in the vicinity of London, Ont. In the early nineties I climbed to a nest about fifteen miles west of London, Ont., and the birds have lived in the woods ever since then when I have been able to visit them, often using the original nest in a sloping oak which I climbed first on April 20th, 1894, and several times in intervening years and I last climbed it on April 21st, 1906. A series of eight sets of eggs taken in eight different years, nearly all consecutive, shows plainly the life of three different females in that period. (*W. Saunders.*)

339*b*. Red-bellied Hawk.

Buteo lineatus elegans (Cass.) Ridgw. 1874.

Not very common. I have taken it at Burrard inlet, B.C. Mr. W. B. Anderson found it at Port Simpson, B.C., and Mr. Brooks

at Chilliwack. I have no record from Vancouver Island. (*Fannin.*) Only noticed west of the Coast range; rare. (*Brooks.*) Hawks, presumably of this species, were thrice seen in the British Columbia interior. (*Rhoads.*)

342. Swainson Hawk.

Buteo swainsoni. BONAP. 1838.

One specimen collected at Moose Factory in 1881, by W. Haydon is in the U.S. National Museum collection. (*Preble.*) Accidental visitant; rare. A few examples of this large hawk have been shot at Montreal, Que. I saw a fine dark specimen which was shot early in the spring of 1894 near the city, and was stuffed by Mr. Bailly, taxidermist. (*Wintle.*) Rare around Toronto, Ont. I have two specimens taken at Toronto, Ont., both in the dark plumage, and I have seen two more local specimens. (*J. H. Fleming.*) This species arrives on the southern prairie in March, and soon becomes abundant. It is the characteristic hawk of the prairie, and is found in every part of that extensive region and is of great service in restricting the multiplication of gophers and other rodents. Although a prairie bird it ranges in the valley of the Mackenzie beyond the Arctic circle, and has been taken at Nulato on the Yukon. It is very rare in the Rocky mountains; only one pair was seen in four months residence of Mr. Spreadborough, at Banff, in 1891, and only one, a female, was seen and killed at Revelstoke by him in 1890.

On British Columbia mainland and Vancouver island. Nowhere common. (*Fannin.*) I once observed a flock of some hundreds, all of the dark phase, at Chilliwack, B.C., and have seen young birds in the autumn; this dark form is a common breeder on all the mountains, at high elevations, being only found in open or park-like country. The only pair of white-breasted birds I ever saw in British Columbia was breeding on a low mountain at Vernon. (*Brooks.*) Saw three at Penticton, B.C., in 1903. (*Spreadborough.*)

BREEDING NOTES.—Seton in "Birds of Manitoba," on page 532, says: "The nest of this bird is not peculiar. I have examined about fifty altogether, and have hitherto failed to find one that answers the published descriptions, which credit the bird with using a lining of hair and other fine material. All the nests examined

early in the season were merely masses of sticks and twigs, with a slight hollow to contain the eggs, and had no special lining. But nests examined after the growth of leaves—usually about the end of May—were more or less lined with twigs plucked with green leaves on them, and these, when slightly wilted, readily flatten down and form a wind-proof screen.

"In general appearance this nest is much like that of the red-tail, but the position is different, being usually less elevated. I have seen many that I could not reach from the ground. The favourite sites are the crown of a dense clump of willows, or the highest fork of a low scrub oak; occasionally I have observed the nest at a height of 20 or even 30 feet, in some poplar, but this is unusual.

"The eggs are commonly three but sometimes four in number; they are more or less spherical and vary much in colour. The young, when hatched, are the purest and downiest looking of innocents, and it is only on examination of the tiny though promising beak and claws that one can credit that little snowball with the makings of a ruthless and bloodthirsty marauder."

First seen on April 4th, 1892, at Indian Head, Sask.; common by the 16th. May 25th, found a nest with one egg, nest in live poplar, made of sticks, lined with a few twigs from the living poplar trees with the leaves on. All the nests that I saw later were built in the same way, and all contained the green twigs and leaves. They invariably repair the old nests and only one new nest was seen during the season. Nests contained 2-4 eggs. Farther west they build their nests chiefly in clumps of willow along the banks of streams and the edges of sloughs, and scarcely ever in thick woods. Where there are no willows or trees, they will build their nest in a clump of rose bushes or upon a "cut bank" (a cliff of earth by a stream). Their principal food is gophers and mice, of which they kill a great number. They are a great benefit to the farmer, but he does not seem to know it, for in southwestern Manitoba, last autumn (1891), I counted no less than nine dead buzzards along a trail in less than half a mile. Found two nests in trees at Crane lake, Sask., in June, 1894. The nests were built of sticks and lined with dried grass. One had two eggs, the other three. I shot one of the old birds as it came from the nest and it proved to be a male, showing that both took turns at the nest. This species is a very

late breeder, and only in one case did I find eggs before the first of June. (*Spreadborough.*)

The writer has taken many nests of this species in Saskatchewan, and has found that a tree is preferred to nest in but that they change the site to agree with changed conditions. Where oak scrub exists, they prefer oak; farther west, poplar (*Populus tremuloides*), and on treeless plains they descend to low bushes and last of all, cut banks where they often make a bulky nest. In the summer of 1895, nests were taken in box elder (*Negundo aceroides*) on Old Wives creek. These were lined with the outer bark of dead trees of this species. Each nest contained only two eggs, both fresh, May 27th and June 1st. A nest was taken at the forks of the creek on June 2nd. This was under a cut bank, about six feet below the summit. This nest was lined with green poplar twigs, having young leaves. Later, nests were taken at Wood mountain, Sask., in willow clumps and under banks, and towards the last of the month, on the Cypress hills, in choke-cherry bushes. In the Milk River country, the nests were chiefly under banks.

In July, 1861, we discovered a nest of this species which was built on a spruce tree along Onion river, the principal tributary of the Lockhart. It contained two well-grown birds. Both parents were about and made a great ado in endeavouring to protect their offspring. The male was shot. In June, 1865, another nest was found on the top crotch of a tall pine in a ravine, some 20 miles southeast of Fort Anderson, lat. 68° 30′. In composition, it was similar to the nest of an *Archibuteo*. The female was shot as she left the nest, which contained but one egg in a well developed stage. The male was not seen. (*Macfarlane.*)

This bird breeds commonly throughout Manitoba, Saskatchewan and Alberta, seldom having eggs before the third week in May, and is, therefore, a late breeder. Between June 5th and 13th, 1901, I examined close upon thirty nests in northern Saskatchewan. All these nests just contained three eggs each, no more or no less, showing that three eggs is the number laid. Incubation was advanced at this time, but I did not find a single nest containing young. Some of the nests were built in fire-killed willows, and so low that I could reach the eggs from the ground. A few nests were in poplars and built from 10 feet to 20 feet from the ground. I never found two

pairs of birds occupying the same bluff, and the nests are usually a quarter of a mile from each other. This hawk has a habit of lining its nest with green poplar leaves, and the eggs look very pretty lying on the green leaves. It is a most useful bird to the farmer, devouring an immense quantity of gophers and mice. (*Raine.*)

343. Broad-winged Hawk.

Buteo platypterus (VIEILL.) FAXON. 1901.

This species probably occurs in Newfoundland. (*Reeks.*) It is very rare in Nova Scotia. (*Downs.*) Rare summer resident in Nova Scotia. (*H. F. Tufts.*) Not uncommon on Cape Breton island. (*Townsend.*) A rather rare summer resident in New Brunswick, according to most observers, but Mr. W. H. Moore reports it to be the most common hawk at Scotch Lake. It is increasingly common as we go west in the valley of the St. Lawrence. It is found all over Ontario and extends westward to Winnipeg, where it breeds. As a straggler, it has been seen by Seton at Carberry, in Manitoba. Sir John Richardson records its occurrence at Moose Factory, on James bay, and in June, 1896, Mr. Spreadborough found it common on Moose river, but none were seen north of Moose Factory. This may be considered the northern limit.

BREEDING NOTES.—I observed three of these hawks, old and young, 24th July, 1887, circling round above Mount Royal park, Montreal, and heard them uttering a note very much like that of a cowbird. I also saw a pair in the trees near the same place on June 4th of the same year, and probably they bred there. I have observed this species here from March 30th to October 19th. (*Wintle.*) This species breeds about the middle of May, and seems to prefer a hemlock or swamp ash tree to nest in. The nest is placed about 20 feet or more from the ground, is composed of dry sticks and lined with pieces of bark and dead leaves and is rather larger than a crow's. The eggs, two or more in number, are of a dirty yellowish or grayish white with blotches of reddish brown. This species is not rare around Ottawa, Ont. (*G. R. White.*) The writer shot a female of this species as she rose from her nest, which was on a swamp ash in what was then Stewart's bush, within the

limits of the city of Ottawa. This was on 24th May, 1884. Since then the city has extended over a mile to the south of this locality, and night hawks nest on the roofs of the houses built on the same spot.

This is a hawk whose young are commonly met with near the St. Lawrence in September and October. Only once have I met with its nest there—24th May, 1899. This nest was built against the trunk of a maple and contained two fresh eggs. It is a late breeder, seldom laying before the last week in May, though once I found the eggs earlier. It is the commonest hawk in the county of Renfrew, near the Ottawa river, and is also common in the county of Lanark. Unlike the red-shouldered, it is partial to thick, swampy woods near creeks, and builds its nest more often against the trunk than among the limbs of a tree. I have seen five nests. Four of these were in birch trees and one in a maple. The earliest date for its eggs was 8th May, 1886, and the latest, 3rd June, 1888. The average time is about 24th May. The favourite trees selected seem to be black or yellow birch. (*Rev. C. J. Young.*) Common in Parry Sound and Muskoka districts. A large number breed. Found a nest at Emsdale, Parry Sound district, 27th May, 1897; it was apparently an old nest and contained three eggs. It was built about 30 feet from the ground in a birch. (*J. H. Fleming.*)

Very common in the woods around Muskoka lakes. Always builds its nest in the large black birch trees. I have never seen one in any other tree and I have taken many nests. The nest is made of sticks lined with leaves and bark. The food of the young appeared to be chiefly frogs. A person will scarcely ever miss seeing one or more sitting upon a stub of a dead tree just above the water in which frogs are plentiful in spring. They also catch mice and a few young birds. On one occasion I saw one carrying a snake more than two feet long. I think that the reason they prefer the birch is on account of thick foliage and the forked nature of the tree near the top, which makes a very suitable place to nest in. I have always found the nests in thick woods, and as I have never seen a nest anywhere except in Muskoka, they have always been near water, as it would be hard to be otherwise. (*Spreadborough.*) We found this bird nesting at Woodlands, Manitoba, June 11th, 1894. The nest contained two eggs. (*W. Raine.*)

CXLVII. ARCHIBUTEO Brehm. 1828.

347. Rough-legged Hawk.

Archibuteo lagopus (Brünn.) Gray. 1841.

Several specimens from St. Michael and one obtained by me on Unalaska are indistinguishable from European birds contained in the National Museum collection. On the northern coast of Alaska, including the shore of Bering sea and the Arctic, and thence in the interior along the entire course of the Yukon, many specimens of the rough-legged hawk have been taken, but none from this region are in the melanistic phase so common among birds from the Hudson bay country. In fact, all the specimens from northwestern Alaska appear referable to the Old World form, as certainly are the examples mentioned. (*Nelson.*) Early in September we saw at St. Michael large hawks which, from their proportions and flight, were either buteos or archibuteos. (*Bishop.*) Two females and a male were taken at Muller, Alaska, and one set of three eggs at Herendeen bay. (*Anderson.*) Mr. Chapman says of Anderson's specimens that the females are virtually indistinguishable from some and even paler than other, European specimens in the collection of the American Museum of Natural History, and he doubts the propriety of recognizing a New World form.

347*a*. American Rough-legged Hawk.

Archibuteo lagopus sancti-johannis (Gmel.) Coues. 1872.

This species is the common hawk of Labrador, Ungava and the barren grounds extending west from Hudson bay. It breeds especially in the northern part of its range and eastward to Newfoundland. It is a winter migrant in Nova Scotia and New Brunswick. Mr. Wintle remarks that it is a transient visitor at Montreal, especially in November.

A spring and autumn migrant in Ontario. (*McIlwraith.*) Regular winter migrant. A remarkable migration of these hawks took place in October, 1895, and a considerable number was killed at Toronto. The flight was simply enormous. I could have bought over one hundred had they been any use to me. I obtained four or five of the black form. (*J. H. Fleming.*) This bird is far from

common in Manitoba, and so far as noted, it is found only in the spring and fall. (*E. T. Seton.*) Ismost abundant in spring and fall, in all stages of plumage, all over Manitoba, but not noted during the breeding season. (*Atkinson.*) One taken at Indian Head, Sask., in the spring of 1892, and one observed at Edmonton, Alta., in April, 1897; saw one at Peace River Landing, Atha., in 1903. (*Spreadborough.*) Sometimes abundant at Aweme, Man., in spring and fall; possibly breeds. (*Criddle.*) Two seen at Swampy lake, and one was given us at Norway House, Keewatin. (*Preble.*) Richardson, Ross and Macfarlane found it in the northern forest in summer, but in all my wanderings south of the Saskatchewan or in the mountains, I have never met with it. I am led to believe that the following references belong to a race distinct from the eastern bird, which seems to have its centre of migration in Ontario. (*Macoun.*)

Both on the mainland and Vancouver island, B.C. In my experience, rare. (*Fannin.*) Tolerably common migrant at Chilliwack, B.C.; rather scarce in the Cariboo district of British Columbia in winter. (*Brooks.*) Sumas and Osoyoos lakes. (*Lord.*) One seen at Vernon, and a specimen seen at the same place in the collection of Mr. Pound. Another shot on Vancouver island is in the possession of Mr. Lindley, of Victoria. Considered a very rare bird on the Pacific coast. (*Rhoads.*) No examples of this bird were secured by me in northern Alaska, nor have I seen any. Several specimens from Kadiak are the only ones known from Alaska. (*Nelson.*) Specimens taken July 24th, 1896, at Jak lake, Prince William sound, Alaska. (*Grinnell.*) A pair and two young, able to fly, were found in possession of an islet in Lake Clark. Others were seen on Chulitna river and at Nushagak, Alaska peninsula, in 1902. (*Osgood.*)

Breeding Notes.—First observed on Hudson bay north of Great Whale river, 28th June, 1896. It breeds on nearly all the high cliffs all the way across Ungava district from James bay to Ungava bay. On 13th July, Mr. Russell found a nest with three eggs, incubation far advanced. I found a nest on a cliff at east end of Seal lake, 3rd August in which the young were about half grown. The nest was a mere mass of sticks lined with dry grass. This is the common large hawk of the country. (*Spreadborough.*)

Nests on the top of cliffs, not on the side like the duck hawk. (*A. P. Low.*)

This form of *A. lagopus* is abundant in the Anderson district as specimens have been obtained from all parts of the surrounding forest to the borders of "the barrens," as well as from the Arctic coast. Over seventy nests were collected during the period of exploration treated of by these notes. About fifty-five of them were built in the crotches of trees not far from the top and at a height of twenty to thirty feet from the ground. They were externally of sticks, twigs and small branches, rather comfortable, lined with hay, mosses, down and feathers. The remaining fifteen were situated near the edge of steep cliffs of shaly rock on the face of deep ravines and on declivitous river banks, and these were usually made of willow sticks and twigs, but with a thicker lining of hay, moss and other soft materials. The eggs varied from three to five, never more than the latter number, and their contents were like those of some other birds' eggs gathered by us, in different stages of incubation in the same nest. (*Macfarlane.*)

A rare summer resident in northern Saskatchewan and northern Alberta from where I have received both eggs and skins. I have sets of eggs taken by Mr. L. Dicks at Hamilton inlet, Labrador, May 17th, 1897, also sets taken by Mr. Stringer at Mackenzie bay, Arctic America. This is the common hawk of Herschell island, where it builds its nests on the cliffs. They consist of a mass of weeds and grass and contain usually four eggs. I have several sets from Herschell island. (*W. Raine.*)

348. Ferruginous Rough-legged Hawk.

Archibuteo ferrugineus (Licht.) Gray. 1849.

Apparently rare in Manitoba as Seton does not record it in his "Birds of Manitoba." In *The Auk*, Vol. X, 49, however, he states that a fine specimen of this bird is now in the Manitoba Museum, taken by Mr. Hine. Dr. Coues found it breeding in the Pembina mountains on the International Boundary in July, 1873.

This is not a rare species in the prairie region. In 1895 the writer found it at Old Wives creek, Sask. Two nests were taken at this point on 27th May, eggs in one just hatched. The species was seen at Wood mountain and everywhere on the prairie west to the Cypress

hills and south to Milk river. It was common in the West Butte and along St. Mary river north of the 49th parallel. It seems to be purely a prairie species, not being recorded from the Saskatchewan.

One was shot by me at Aweme, Man. They are doubtless overlooked and taken for the rough-legged hawk. (*Criddle.*) A rare breeding species but possibly increasing in number in Manitoba. The first specimen recorded was taken north of Portage la Prairie, May 7th, 1898. It was an immature female and is still in my collection. Travelling west, however, in 1906, we came into the regular range of the species just west of Yorkton, Sask., and from that point to Edmonton it was regularly and commonly noted. (*Atkinson.*)

Breeding Notes.—A pair was seen at Indian Head, Sask., on 1st May, 1892. On 16th I shot a fine female that had a nest in a dead poplar about twelve feet from the ground. The nest was made of sticks and lined with dry grass and contained five eggs. Another nest in live poplar had the same number of eggs and was lined with the inner bark of dead poplar. This bird was tolerably common all summer. In May and June, 1894, a number of nests were found in box elder (*Negundo aceroides*) at Medicine Hat, Crane lake, and along Skull creek, and in the Cypress hills. In the summer of 1895, they were found breeding in the same situation. I have found their nests in poplar, cottonwood, box elder, upon "cut banks" (clay cliffs) of streams, and upon clay domes in the "bad lands" south of Wood mountain. In the spring of 1894 one pair built a nest upon the tower of a windmill at Langevin on the C. P. Ry. west of Medicine Hat. It had to be taken down, however, as it interfered with the working of the mill. The highest nest I have seen was not more than thirty feet from the ground. Nests were always near water, but I think that this is more because the cut banks and trees are usually along the streams and not for any preference that they have for it. On 11th June, 1894, took two nests at Crane lake, Sask. Both contained young ones. The nests were very large. One was built of sticks and cow dung lined with dry grass; the other of sticks alone lined with dry grass. The young are white when first hatched. Their chief food is gophers, of which I have seen a number in the nests, as well as at the foot of the tree or bank where the nest was. (*Spreadborough.*) Breeding in large trees in timber and in isolated trees along creeks in western Saskatchewan. (*A. C. Bent.*)

I have examined about a dozen nests of this bird in northern Saskatchewan. It is an early breeder, laying its eggs early in May, and building a very large nest in the highest trees it can find. It lays from three to five handsomely marked eggs. Most of the nests I have examined contained dead gophers, proving that this is another useful hawk to the farmer. (*W. Raine.*)

This species builds a very large nest and seems to prefer the old one to a new structure. All the nests seen were composed of large sticks for the body of the nest, then the droppings of horses and cattle to consolidate the margins, and lastly lined inside with the inner bark of dead box elder and poplar. Two nests were taken on 27th May, 1895, each had three eggs originally, but in one the young were just hatched. Each nest was in the fork of a box elder about ten feet from the ground.

CXLVIII. **AQUILA** Brisson. 1760.

349. Golden Eagle.

Aquila chrysaëtos (Linn.) Sprüngli. 1776.

Specimens procured in the Ungava district. Breeds in the northeast portions among the hills. A pair also breed at the "Forks" in the Ungava district. (*Packard.*) Saw what I took to be an example of this species near the "Forks" above Ungava. While at Fort Chimo, September, 1896, saw the skin of one that the Indians had shot a few days before on the river. (*Spreadborough.*) I examined a live specimen in young plumage, captured June 23rd, 1892, near New London, Prince Edward island. After visiting the locality I am inclined to doubt whether the bird was bred on the island. (*Dwight.*) Not a common bird in Nova Scotia, but breeds there and resides throughout the year. (*Gilpin.*) Rare at Wolfville, N.S. (*H. F. Tufts.*) Only one specimen known to have been taken in New Brunswick. (*Chamberlain.*) Taken at Beauport; a summer resident in Quebec. (*Dionne.*) "Transient visitant" at Montreal; rare. Saw a fine specimen of this eagle in the Bonsecours market in the month of May, 1891. It was evidently shot near Montreal. (*Wintle.*) A bird of the year of this species was given to me, which had been caught in a trap near High Falls, Que., forty miles northeast of Ottawa. It measured seventy-seven inches from tip to tip. (*Rev. G. Eifrig.*)

Saw one individual on Missinabi river, Ont., in September. (*Spreadborough.*) Edwards figured a specimen from Hudson bay. We saw several of these birds as we were passing through Hell Gate gorge and noticed two of their nests. (*Preble.*)

A female was shot 30th October, 1883, at Casselman, near Ottawa, Ont., by Mr. J. S. Castleman, and another was seen near the same place shortly afterwards. (*Ottawa Naturalist*, Vol. V.) It breeds in the Laurentian hills. (*G. R. White.*) Breeds in the rugged hills of eastern Canada, and is frequently taken at Hamilton and Toronto, but chiefiy young birds. (*McIlwraith.*) There are four Ontario specimens of the golden eagle in the Geological Survey Museum. They are from Odessa, Westbrooke, Woodbridge and Brampton. (*J. F. Whiteaves* in *The Ottawa Naturalist*, Vol. XV., p. 249.) Near Lambeth, Middlesex co., Ont. (*J. E. Keays.*) One captured by Mr. A. Cole while feeding on the carcass of a horse west of Listowel, Ont. (*W. E. Kells.*) Occasionally met with in Frontenac co., Ont. (*Rev. C. J. Young.*) A golden eagle was killed at Toronto, Ont., on October 24th, 1896. The only record in many years. I received a golden eagle shot at Loring, Ont., about the first of March, 1897. One was killed at Lake Scugog, Ont., on October 20th, 1897. I received two females from Dunchurch, shot in March, 1898 and three more from Loring, two females and a male. It is a remarkable fact that till 1896 I had not met with a single golden eagle from Parry Sound. Bald eagles always abundant but no golden eagles. (*J. H. Fleming.*) Very rare in Manitoba. Possibly resident. (*E. T.Seton.*) A rare species in Saskatchewan, but was seen in the "bad lands" south of Wood mountain in June, 1895, and in July of the same year on the West Butte and at "Writing on Stone" on the Milk river. Mr. Spreadborough believed it was breeding in the above locality. (*Macoun.*) Only noted as an irregular migrant in Manitoba. Frequently falls a prey to poisoned meat. (*Atkinson.*) One seen at Crane lake, June 26th, 1906. (*A. C. Bent.*)

This powerful bird breeds in the recesses of the sub-alpine country which skirts the Rocky mountains and is seldom seen farther to the eastward. (*Richardson.*) Extends north in the Mackenzie valley to the Arctic coast. (*Ross.*) The whole of British Columbia, but chiefly east of the Coast range, where it is a resident; rarely west to Vancouver island. (*Fannin.*) Resident but not common in the lower Fraser valley. Not common in winter in the Cariboo district,

B.C.; also in the winter at Lake Okanagan, B.C. (*Brooks.*) Saw one near Midway, B.C., one at Elko, B.C. and a pair near Midway, April 28th, 1905 that seemed to be building. (*Spreadborough.*) Rare in British Columbia. A few specimens seen around the higher mountains at Ducks and Kamloops. (*Streator.*) Seen two or three times on the interior mountains. As rare in British Columbia as on the Atlantic seaboard. (*Rhoads.*) Throughout a large portion of Alaska, especially that part which is more or less heavily wooded and interspersed with mountains, the golden eagle is found. The Point Barrow party secured a single specimen taken by the natives east of Colville river. It extends its range west along the Aleutian chain, having been obtained by Dall on Unga island, who mentions it as a common resident on the Aleutian chain as far west as Unalaska. (*Nelson.*) The golden eagle is not rare in the vicinity of St. Michael. It is more frequently seen further north in the vicinity of Norton bay, and in the hills back of Pastolik than on St. Michael island. On the Aleutian islands it is quite a common bird. At Unalaska they are fully as common as the bald eagle, and are reported to breed in March on the high bluffs on Makushin point. (*Turner.*)

Breeding Notes.—From various points along the valley of Anderson river lat. 68°-69° 30′ to its outlet in Liverpool bay and from the mouth of the Wilmot Horton in Franklin bay, an aggregate of twelve nests of this eagle was obtained by us in the course of the seasons from 1862 to 1865, inclusive. Ten of this number were built against the face of steep and almost inaccessible banks of shale or earth at a height of seventy to eighty feet, and from twenty to thirty feet below the summit. One thus examined, in 1864 was found to be of considerable size; it was composed of a large platform of built-up twigs and sticks, having a bed of hay, moss, and feathers in the centre, and, as this and other similarly constructed nests appeared to be annually renovated prior to reoccupation, they must ultimately assume vast proportions. Pillaged nests are, however, frequently deserted for a period, but in one instance where the female had been snared upon her nest and the eggs taken it was found occupied the following season, probably by the widowed male and another mate. In two instances only were the nests constructed near the top of tall spruce trees; the sandy nature of the soil in their vicinity was not favourable to building on cliffs. (*Macfarlane.*)

In the spring of 1891 Mr. Hine of Winnipeg found this noble bird breeding in a cliff on the Winnipeg river. In June, 1893, I saw a golden eagle at Morley in Alberta and was informed a pair nested in the Rocky Mountain foothills. My collection contains thirty-six eggs of this eagle collected in California and Montana. It lays two eggs, sometimes three, and some are very heavily marked, like buzzard's eggs. (*W. Raine.*)

CXLIX. **HALIÆETUS** SAVIGNY. 1809.

351. Gray Sea Eagle.

Haliæetus albicilla (LINN.) LEACH. 1816.

General in Greenland; has been taken in many places. (*Herluf Winge.*) Inhabits generally and breeds in the whole of Danish Greenland, including the eastern coast. Its northern range not as yet determined. (*Arct. Man.*) A common resident at Ivigtut, Greenland, and breeds there; more common in winter. (*Hagerup.*) Lieut. Satterlee of the *Corwin* found a dead bird of this species at Unalaska, Oct. 5th, 1899, which proved to be a young female. In a small collection of bird skins bought in the fall of 1903 by Dr. Dwight and myself from Mr. Fred. Foster, a taxidermist in Victoria, B.C., we found a single specimen of this species in first winter plumage. It was taken on the coast of Vancouver island, March 18th, 1898. The range of this bird is thus extended almost to Washington, and it seems probable that it will yet be found breeding in Alaska or the Aleutian islands. (*Bishop.*)

BREEDING NOTES.—At Ivigtut, Greenland, Mr. Hagerup, obtained a clutch of eggs on May 15th that had been taken from the nest two weeks previously; they had been sat upon about one week. On June 10th another clutch was secured that had been taken about three weeks before, and these were almost wholly incubated. It is probable that nests with fresh eggs can be found in April. (*Chamberlain* in *The Auk*, Vol. VI., 292.)

I have a set of three eggs taken at Godthaab, Greenland, April 20th, 1898; the nest was built on the ledge of a sea cliff. I have another set of two eggs taken in south Greenland, June 15th, 1890. (*W. Raine.*)

352. Bald Eagle.

Haliæetus leucocephalus alascanus C. H. TOWNSEND. 1899.

Though typical *leucocephalus* probably occurs in eastern Canada the references cannot, in default of specimens, be separated and all are left here. Mr. Fleming finds that all Toronto specimens are referable to *alascanus*.

A pair of this species was seen on August 17th, 1896, by Mr. A. P. Low near Ungava bay and one by Mr. Spreadborough at East point, James bay, June 8th, 1904. Preble says this bird is occasionally seen at Fort Churchill, Hudson bay. Though far from common, it breeds in suitable situations in Newfoundland, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, and westward to the Pacific. In its northern range in the Mackenzie river valley it descends to the Arctic coast. It is extremely common on the coasts of British Columbia and very common in the interior of the province. Passing to the north it becomes still more abundant on the Aleutian islands.

Very common on Queen Charlotte islands in 1900. A number of specimens were seen at Lake Clark, Swan lake, Malchatna river and Becharof lake, Alaska, in 1902. (*Osgood.*) Common along the Inside passage, especially near Wrangell narrows, Alaska. In the interior this bird is much rarer though I saw one at Log Cabin and another at Bennett, Yukon. We saw the birds occasionally about lakes and once or twice along the river, the last being observed near the White river, July 31st. (*Bishop.*) One set of eggs taken at Muller bay, Alaska, May 22nd. (*Anderson.*) The natives say it is occasionally seen about the Pribilof islands, Bering sea. (*Palmer.*)

While collecting on the Bay of Chaleurs at Port Daniels near Gaspé in August, 1882, the writer amused himself watching a fish hawk trying to supply its young with flat-fish caught in the shallow waters of the bay. At some distance from the shore on the margin of the forest were a series of large trees that had been killed by fire. In a tall one of these an eagle usually stationed himself and kept an eye on the hawk. As soon as the hawk caught a fish the eagle would move out in pursuit and then would commence a series of gyrations by both birds. The aim of the eagle was to get above the hawk and if he failed to accomplish this the hawk won. If

the hawk was beaten the eagle would come down on him, the fish was dropped, the eagle caught it and each would sail away, the eagle to the forest, the hawk to the sea. Day after day this performance was repeated and the hawk's nest was located but that of the eagle was not seen.

In June, 1893, the writer was collecting at Comox, Vancouver island, and observed the same thing to a less extent, but besides getting a supply from the hawks the eagle fished for himself. Not by diving, however, but by going to stony flats at Cape Lazo and fishing for himself. Shallow pools were left when the tide was out and in them numerous small fish, chiefly under stones. We had been collecting seaweeds and small fish and a "singing fish," we were told, was found there. This fish certainly made a booming noise and guided us to its retreat, and numerous specimens were collected. The eagle seemed to be guided by the sound for he, too, obtained specimens under our very eyes. All my observations are against this form killing birds. I have seen him catch snakes and fish, steal fish from the fish hawk and eat carrion, but beyond that I never saw him go. All observers report this species as breeding near water and it seems to know that it is an advantage to build its nest as near the food supply as possible.

Breeding Notes.—This bird is fast becoming scarce in eastern Ontario. Up to the year 1895 there was a nest every year in a tall pine about seven miles east of Gananoque and a mile from the St. Lawrence. There is still (1901) a nest every year near Charleston lake, about ten miles from Lansdowne. It also breeds on Simcoe island, opposite Kingston, Ont. I was present at the taking of its eggs on 28th April, 1900, two in number and almost ready to hatch. As the seventy acres of woodland in which this nest is situated are being cleared of timber it is probable that the bird will shortly be banished from this locality, but it still nests undisturbed on the Duck islands and Timber island, Lake Ontario, and up to the year 1902 it nested in a large elm on Horse-shoe island, opposite Kingston, Ont. (*Rev. C. J. Young.*)

This species nests regularly, though rarely, along the shores of Lake Erie, and along other large bodies of water in Ontario where the country is not too thickly settled, but I have never heard of, nor seen it, breeding away from the water. (*W. E. Saunders.*) At

Shuswap lake, British Columbia, in July, 1889, I saw a nest in a large cottonwood tree about forty feet from the ground, near the shore of the lake. Nest very large, made of sticks and must have been three feet in diameter. The young were as large at this time as old birds. The young feed a good deal on dead fish that float ashore and also upon carrion. Common throughout Vancouver island. At Comox shot many specimens both young and old. At this time, June, 1893, they were feeding on the singing fish which they caught from under stones when the tide was out. (*Spreadborough.*)

Several nests were found with eggs and young in them on Lockhart and Anderson rivers. They were built on high trees close to the river banks and composed of dried sticks and branches lined with deer hair, mosses, hay and other soft materials. There were from two to three eggs in each nest. In one instance the parents made hostile demonstrations when their nests were being robbed, but they generally flew away and kept at a safe distance. They are not very numerous, and it is very doubtful if any breed to the northward of Fort Anderson, lat. 69° 30′. (*Macfarlane.*)

This bird nests in Muskoka and in northern Alberta. I have six clutches of eggs, some of which were taken in northern Ontario and the others in northern Alberta. (*W. Raine.*) May 16th, 1897, a set of two partly incubated eggs was taken from a nest on Raza island, Toba inlet, Gulf of Georgia, B.C., by Charles Collier. The nest was in a tree about 90 feet from the ground. It was at least four feet across and built of sticks. In the middle on the level top there was an inner nest about 16 inches across with a slight depression in the centre where the two eggs lay. The inner nest was almost entirely composed of moss. (*W. Harvey.*)

CL. **FALCO.** LINNÆUS. 1758.

353. White Gyrfalcon.

Falco islandus BRÜNN. 1764.

Common in Greenland. (*Winge.*) In summer more common in the northern inspectorate of Greenland than in the southern, but occurring according to Dr. Finsch also on the eastern coast. The limits of its breeding-range in either direction have not been deter-

mined. (*Arctic Manual.*) Common at Ivigtut. (*Hagerup.*) The residents of Fort Churchill spoke of a white hawk sometimes seen there which is probably this species. Richardson described a mature bird from Hudson bay, Murray recorded it from York Factory, Ridway described a specimen from Moose Factory and Dr. Rae collected it at Repulse bay. (*Preble.*) Taken at McCormack bay, and at Disco island, Greenland, by the Peary and Relief expeditions. (*Witmer Stone.*) Common at Fort Chimo and east coast of Labrador. Resident in northern portions, breeds at Fort Chimo. (*Packard.*) Two specimens killed at Port Burwell, Hudson strait, July, 1884. (*Dr. R. Bell.*) Seen along the south side of Hudson strait, skin and eggs taken at Cape Chidley. (*A. P. Low.*) A very fine male of this species was shot at Point des Monts, eastern Quebec, and another seen in the spring of 1885 by Mr. N. A. Comeau. (*The Auk*, Vol. II, 315.) We have received a specimen of this species from Ungava bay, Ungava district, shot by Mr. Thomas Mackenzie in 1890. (*J. A. H. Brown* in *The Auk*, Vol. VIII, 236.) Pretty regular in its fall migrations but does not breed in Newfoundland. (*Reeks.*) A casual visitor to Nova Scotia. (*Downs.*) Occasionally seen in New Brunswick. (*Chamberlain.*)

"Accidental visitant;" rare at Montreal. Mr. Kuetzing says he has purchased four examples of this species in the Bonsecours market. I have not heard of any gyrfalcons occurring here in recent years. (*Wintle.*) A very rare visitor at Ottawa, Ont.; one fine specimen taken. (*G. R. White.*) A female taken by Mr. Frank Otto, Nov. 20th, 1905, is the only record for Toronto, Ont. (*J. H. Fleming.*) Rare at Aweme, Man. One was shot near there, Dec. 2nd, 1902, and others have been seen from time to time. (*Criddle.*) The gyrfalcon is a constant resident in the Hudson bay territories, where it is known by the name of the "Speckled Partridge Hawk" or by that of the "Winterer." I have ascertained that it is occasionally seen as far south as lat. 52°. It is found northward to the coast of the Arctic sea, and probably in the most northern Georgian islands; it is a well-known inhabitant of Iceland and Captain Sabine observed it on the west coast of Greenland, as high as lat. 74°. (*Richardson.*)

A fine adult female was brought to me at Comox, Vancouver island, Dec. 4th, 1903. (*Brooks.*) During my residence in the north I secured only a single specimen of this bird, an Eskimo skin taken

at Cape Darby on the Alaskan shore of Bering strait. (*Nelson.*) A single specimen of this species was killed at St. Michael, 15th May, 1877. It is not a common bird in this vicinity, and oftener seen in spring than at other seasons. (*Turner.*)

354. Gray Gyrfalcon.

Falco rusticolus LINN. 1758.

The darker form of great northern falcon, by some held to be distinct both from *F. islandus* and *F. gyrfalco*. The northern limits of its breeding range have not yet been determined. A young male falcon killed 24th September, 1872, on the Fiskenæs, referred by Dr. Finsch to *F. gyrfalco* probably belonged to this form. (*Arct. Man.*) Common in north Greenland. (*Winge.*) Common resident in Greenland and breeding at Ivigtut. (*Hagerup.*) Winter specimens only obtained at Fort Chimo. Not known to breed in the Ungava district. (*Packard.*) Probably occurs in Newfoundland. (*Reeks.*)

Casual. One specimen of this species was shot by Mr. E. White on the banks of the Rideau, below Cummings Bridge, Ottawa, on 3rd December, 1890; another was shot by G. R. White some years before. (*Ottawa Naturalist*, Vol. V.) Since the year 1885, I have received over thirty sets of the eggs of this fine bird from Iceland. It lays from three to four handsome eggs, making a slight nest on ledges of the sea cliff. (*W. Raine.*) Very rare at Aweme, Man. (*Criddle.*) A female was caught in a trap at St. Michael, Alaska, Sept. 21st, 1899. (*Bishop.*)

354*a*. Gyrfalcon.

Falco rusticolus gyrfalco (LINN.) STEJN. 1885.

There is no doubt but that this form was included in *F. islandus* by Sir John Richardson as he found the birds nesting not far from where Macfarlane found this species 40 years later.

Taken in several places on Ellesmere island. (*E. Bay.*) Seen from 6th to 20th September, 1884, flying south at Wales sound, Hudson strait. (*Payne.*) Taken at Fort Churchill, west side of Hudson bay. (*Clarke.*) York Factory, Hudson bay. (*Dr. R. Bell.*) One specimen taken at Disco, Greenland, 1891. (*Witmer Stone.*)

Very rare at Aweme, Man. One shot, October, 1906, while after poultry. (*Criddle.*) One specimen was shot at Comox, Vancouver island, October, 1894, by W. Harvey. (*Kermode.*) A regular, though scarce, fall and spring visitor at Chilliwack, B.C. (*Brooks.*) Throughout all Alaska, from the Aleutian islands north, both along the coast and through the interior, extending from Bering strait across the northern portion of British America, the present falcon is the commonest bird of prey. It frequents the vicinity of cliffs and rocky points about the sea coast, or the rocky ravines of the interior during the breeding season, and the remainder of the year, especially in the fall, it is found wandering over the country everywhere that food can be obtained. (*Nelson.*) Several specimens of this gyrfalcon were obtained in the vicinity of St. Michael, where it is a constant resident, with probably exceptions during protracted periods of very severe weather. The natives assert that this bird breeds on the high hills, either on a rocky ledge or on the moss-covered ground. (*Turner.*) An adult female was taken at Muller bay, Alaska. (*Anderson.*) One specimen was collected by Elliott on St. Paul island, Bering sea, and Dr. Bean shot one at sea about 60 miles southeast of St. George island. (*Palmer.*) The only hawk obtained at Point Barrow was of this variety. Hawks were seen in 1882 and 1883, but were always very wild and difficult to approach. (*Murdoch.*) Observed numerous individuals along the Kowak, Kotzebue sound, Alaska, during 1899. (*Grinnell.*) Two specimens taken at Point Barrow, Arctic sea, Alaska, September, 1897. (*Witmer Stone.*)

Breeding Notes.—This gyrfalcon is common in the wooded country on both sides of the Anderson river. Over 20 nests were secured, and with only two exceptions which were built one on a ledge of rocks and the other against the side of a deep ravine, they were found close to or near the top of the tallest tree of the neighbourhood. They are similar in composition, but smaller in size than those of the bald eagle; and while the number of eggs was either three or four, their contents were frequently found in different stages of development. The earliest date for finding a nest was May 10th. The eggs were quite fresh, though one taken five days later contained partially formed embryos. In a few cases young birds were in the same nest along with the eggs, the contents of which were but little changed, and in another an egg perfectly fresh was found with several ready to hatch. This falcon is supposed

to be a "winterer" in the northern parts of Canada where its prey is said to consist chiefly of ptarmigan. The allied *F. rusticolus* or probably *F. Islandus*, breeds in small numbers in the same region, as the Indians often spoke of a large hawk, twice observed by myself, which had successfully eluded all attempts to capture itself or its eggs. (*Macfarlane.*)

354*b*. Black Gyrfalcon.

Falco rusticolus obsoletus (GMEL.) STEJN. 1885.

Abundant at Fort Chimo, Ungava. Eggs obtained 24th May. Very rare in winter. (*Packard.*) Common near Cape Chidley, Ungava, and inland. (*A. P. Low.*) Common on the river below Fort Chimo, Ungava, Sept. 18th, 1896. (*Spreadborough.*) Rare on the Labrador coast; one taken at Port Manvers in 1901. (*Bigelow.*) Rare winter visitor in Nova Scotia. (*H. F. Tufts.*) A number of individuals of this species have been taken at Godbout, on the lower St. Lawrence, by Mr. Comeau and I have known two individuals to be taken at Quebec. (*Dionne.*)

In 1896 Mr. John Burton, of Hamilton, presented me with a skin of this bird which he obtained at Long point, Lake Erie, in the fall of 1893. This is the only record of this bird occurring in Ontario. Mr. McIlwraith, of Hamilton, in his work, "Birds of Ontario," has no record of this bird, although at the time he wrote his book there was the above skin at the home of Mr. Burton in Hamilton. This skin is now in the possession of Mr. Fleming, of Toronto, whose collection is rich in rare Ontario birds. (*W. Raine.*) Mr. Fleming writes that this bird more nearly approaches *F. rusticolus gyrfalco* than *F. r. obsoletus.*

Seton, in his "Birds of Manitoba," doubtfully refers this bird to that province as a winter visitor. Later, in *The Auk*, Vol. X, p. 49, he says: "Since I wrote the 'Birds of Manitoba,' two fine specimens have been taken, and are now in the Manitoba museum." In the opinion of the writer his quotations from Hearne and Hutchins refer to the preceding subspecies and not to this one. Criddle says this bird is rare at Aweme, Man.

355. Prairie Falcon.

Falco mexicanus SCHLEG. 1841.

The first time the writer observed this species was in September, 1885, at Rush lake, Sask., on the line of the C.P. Ry. There were a number of them and they seemed to be quite tame. Each telegraph pole was occupied, and as the bird was new to me I shot one. For years after that I saw no more, but in the spring of 1892 Mr. Spreadborough shot one at Indian Head, Sask. In the summer of 1895 none was seen on a traverse of 600 miles or until we reached the West Butte. At the police station named Pend d'Orielle, on the Milk river, they were numerous and doubtless they bred there.

One specimen was taken at Deer park, Columbia river, B.C., June 9, 1890, and one seen at Lake Osoyoos, B.C., in 1905. (*Spreadborough.*) Formerly a regular fall and winter visitor and may breed in the mountains in the lower Fraser valley, B.C. (*Brooks.*)

BREEDING NOTES.—At one of our astronomical stations, on the west branch of the "Two Forks" of Milk river no less than four species of large hawks had their nests within sight of each other, and only a few hundred yards apart. These were the Swainson and the ferruginous buzzards, the common falcon and the present species. * * * The nest to which I now refer was discovered 18th July, 1874, on the perpendicular face of the "cut bank" of the stream. It contained three young scarcely able to fly. Two of these were shot on the wing close to the nest, and the third was brought to me alive by a soldier. This nest was built behind an upright column of earth, partly washed away from the main embankment, in such a position that no full view of it could be obtained from any accessible standpoint. But it was certainly placed directly on the ground, in a little water-worn hollow of the bank, behind the projecting mound, so that it was almost like a burrow. (*Coues on Birds of Dakotah and Montana.*)

I have a set of four eggs taken in southern Alberta, May 17th, 1897. The nest is merely eggs simply laid on the gravel in a hollow on the high bank of a river. (*W. Raine.*)

356. Duck Hawk.

Falco peregrinus anatum (Bonap.) Blasius. 1862.

A common species in Greenland. (*Winge.*) Said to breed generally throughout Greenland, certainly up to lat. 69° N. and in many of the lands to the westward of Baffin bay. Examples obtained by Dr. Walker of the "Fox" R.Y.S., at Port Kennedy, lat. 72° N., are specifically indistinguishable from European specimens. (*Arct. Man.*) Frequently observed in the vicinity of Ivigtut. (*Hagerup.*) On Marble island and at York Factory, Hudson bay, September, 1885. (*Dr. R. Bell.*) One seen on the Barren Grounds below Cape Eskimo, Hudson bay, August 5th, 1901. Recorded by Murray from Trout lake and Severn House and by Clarke from Fort Churchill. (*Preble.*) More common than the gyrfalcon in the Hudson bay and strait region. (*A. P. Low.*)

This species is rare in Newfoundland and Nova Scotia. Reported to breed in New Brunswick by Chamberlain and known to breed in Quebec and Ontario. Probably breeds in northern Manitoba, but is rare on the prairies. Only three specimens were seen by Mr. Spreadborough at Indian Head, Sask., in the spring of 1892. It is commonly met with in the wooded country north of lat. 52° in the autumn. It is rare in the mountains as no specimens were ever seen between Calgary and Kamloops, B.C. It is not a rare bird west of the Coast range and is a resident on Vancouver island. Apparently common throughout Alaska and breeding.

Rare at Aweme, Man., probably breeds. Arrives about April 14th, returns in October and departs towards the end of that month. (*Criddle.*) A regular migrant in Manitoba. Not seen in 1906 on the western prairie until Tramping lake, Sask., was reached early in August but from there west, about the larger waters, it was seen pursuing ducks. I found it also ruthlessly pursuing avocets and willets. (*Atkinson.*) Seen almost every day between Stewart river and Circle, Alaska, and at many places between Circle and the mouth of the Yukon. (*Bishop.*) On Popof island, Alaska, a pair of these birds was seen nearly every day. (*Figgins.*) So far this is the only species of peregrine I have been able to secure at Comox. I expected *Pealei* to be the common form on Vancouver island. (*Brooks.*)

Breeding Notes.—Abundant at Fort Chimo, Ungava bay, nesting on cliffs. Eggs obtained May 24th. (*Packard.*) Said to breed

at St. Martins, on the Bay of Fundy, N.B. (*Chamberlain.*) One old bird and two young ones shot on Marble island, Hudson bay, 1st September, 1884. (*Dr. R. Bell.*) Said to nest on the cliffs along the Humber river, Newfoundland. (*L. H. Porter.*)

Yamaska mountain, at Abbottsford, about forty miles east of Montreal, has been a breeding place for this species for many years. Mr. Fisk reports that a pair of these hawks had a nest on the west side of the mountain, and he has observed this species there every year for forty years past. He took two eggs of the duck hawk in April, 1891, there, from under a rocky ledge; no material was used for the nest, only a slight hollow scratched out by the hawks under a shelving rock. (*Wintle.*) A pair nest on Lake Muskoka, Ont., regularly. Mr. Taverner took a set of four eggs from the nest on 24th May, 1898; it formerly bred on the Bruce peninsula. (*J. H. Fleming.*) On 15th April, 1894, saw a pair that were breeding in a hole in the high "cut bank" of the Saskatchewan at Medicine Hat, Sask. (*Spreadborough.*)

This falcon constructs no nest whatever so far as I know. It lays its eggs on the most inaccessible ledge of a river cliff of earth or rock. Four is the usual number, and in some instances the eggs were larger than in others. All of the discovered nests were found in the country to the southward of the post, and it is doubtful if they breed much beyond lat. 68° north. Early in August, for several successive years, young birds of the season, fully fledged, but still attended by their parents, were noticed along the limestone and sandstone banks of the Mackenzie river. (*Macfarlane.*) Bishop and Osgood saw many nests on cliffs along the Yukon river.

This bird breeds rarely in eastern Ontario. I saw it in April, 1899, and the following year. A nest containing four eggs was taken near the Blue mountain, Leeds co., Ont., by Mr. W. G. Shelbourne. I visited the locality on the 23rd April, 1901, and saw the birds, but they had not yet laid their eggs. The nest was secured later, on the 9th May, and it and the eggs are now in a private collection in Kingston. It also breeds at Diamond lake, in North Hastings, Ont., and was still breeding at Charleston lake, Leeds co., in 1905. (*Rev. C. J. Young.*)

I have eight clutches of eggs of this bird, taken in Muskoka and northern Alberta. One set of four eggs was collected by Mr. P. A.

Taverner, at Muskoka lake, May 22nd, 1898. The nest was on a ledge of a cliff overhanging the water, twenty-five feet from the top of the cliff and seventy feet above the water. The nest was only a slight hollow on a ledge two feet wide, the half-devoured remains of a ruffed grouse and pileated woodpecker were lying on the ledge near the nest. Mr. Wenman has collected for me two sets of eggs on the banks of Blindman river, Alberta. There was no nest in either case, the eggs being simply laid on the gravel. A pair nest on Scarboro cliffs, seven miles west of Toronto, and three miles from my house, but the nest is inaccessible. (*W. Raine.*)

356*a*. Peale Falcon.

Falco peregrinus pealei RIDGW. 1880.

Mainland of British Columbia and on Vancouver island. Chiefly coastwise. (*Fannin.*) Mounted specimens of this form were seen in the shop of Mr. Inglis, Vancouver, B.C. (*Rhoads.*) An immature female was shot in Hecate strait, a few miles off Scudder point, Burnaby island. Several others were seen near Provost island and in Houston Stewart channel, B.C. (*Osgood.*) One specimen taken at Chilliwack, B.C., October 5th, 1901. (*Spreadborough.*)

Along the southwestern coast of Alaska, from Kadiak to Sitka, this dark handsome variety of the duck hawk is found, perhaps entirely replacing its more eastern and northern relative. It has not been recorded from the interior or northern portion of the territory to the north of the Alaskan mountains; but it is known to extend to the extreme western end of the Aleutian chain. (*Nelson.*) One flew around the *Corwin*, when we were some distance south of the Aleutian islands and out of sight of land, October 7th, 1899. (*Bishop.*) This falcon was frequently observed on Amchitka island in the month of June, 1881; and on Attu island during 1880 and 1881. It breeds on nearly all the islands of the chain, and is a winter resident of the Nearer group at least. On Agattu it is reported to be very common; and on Amchitka I knew of three nests on the ledges of the high bluffs hanging over the sea. (*Turner.*)

357. Pigeon Hawk.

Falco columbarius LINN. 1758.

This species was scattered all across the district of Ungava from the mouth of Whale river almost to Fort Chimo in the summer of 1896, and others were taken off Cape Chidley in Hudson strait;

abundant from Cape Henrietta Maria to Moose Factory in 1904. (*Spreadborough.*) Audubon, Vol. I, 89, states that eggs and nest were found in Labrador about June 1st. Coues met with it (p. 216) on two occasions at Groswater bay on 5th August and on 25th of same month at Henley harbour. (*Packard.*)

This species is more or less common, breeding in suitable places in Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario. It is also common in the wooded parts of Manitoba, extending north to Fort Churchill on Hudson bay, where it was taken by Dr. R. Bell, and Cape Eskimo, where one was seen by Preble. Richardson says it makes its appearance on the coast of Hudson bay in May about York Factory in lat. 57°. He also saw what he took to be the same species at Great Bear lake in lat. 66°. This was in the spring of 1825. Atkinson writes that this is a regular breeding species throughout Manitoba and that he noted it at several points between Portage la Prairie and Edmonton, Alta. Ross records it north to Lapierre House in the valley of the Mackenzie. It is a common species in the wooded portion of Alaska, and extends west to Unalaska, according to Turner. It descends south into British Columbia east of the Coast range, where it is fairly common though rare on the coast, according to Fannin. A mated pair seen at Lake la Hâche, B.C., by Mr. Rhoads.

On the prairie it is not very common, but one was taken at Medicine Hat in May, 1894, and a pair in the Cypress hills in the same year. A few were observed on Old Wives creek, Sask., in 1895. None were seen in the mountains by Mr. Spreadborough in 1890, 1891, 1897 and 1898, but a pair were found breeding by him in the summer of 1902 at Cascade, B.C., on the 49th parallel, and a nest was taken by him at Edmonton, Alta., in May, 1897. In 1903 one was seen by Mr. Spreadborough at Spirit river, Peace River district, Atha., and at Lesser Slave lake he found it to be common. In 1905 he saw one at Meyers creek, B.C.

I found the pigeon hawk quite common during August along the Kowak, Kotzebue sound, Alaska. (*Grinnell.*) We saw a pigeon hawk near Charlie creek. Osgood took a young male, twelve miles above Circle and I saw one at Aphoon mouth, Yukon river. (*Bishop.*) Homer, Alaska. (*Figgins.*) An adult male was taken at Seldovia, Alaska. (*Anderson.*)

BREEDING NOTES.—We have few authentic records of the nesting of this bird.

It breeds every year in the Magdalen islands in the Gulf of St. Lawrence, selecting a thick bushy place. (*Rev. C. J. Young.*) A pair built regularly on an island in Lake Joseph, Muskoka, Ont. (*J. H. Fleming.*) This falcon ranges along the Anderson river almost to the Arctic coast at Liverpool bay. Several of their nests had apparently been built by them on pine trees, and others on the ledges of shaly cliffs. The former were composed externally of a few dry willow twigs, and internally of withered hay or grass, &c., and the latter had only a very few decayed leaves under the eggs. I would also mention the following interesting circumstance. On May 25th, 1864, a trusty Indian in my employ found a nest placed in the midst of a thick branch of a pine tree at a height of about six feet from the ground. It was rather loosely constructed of a few dry sticks and a small quantity of hay. It then contained two eggs. Both parents were seen, fired at and missed. On the 31st he revisited the nest which still had two eggs, and again missed the birds. Several days later he made another visit thereto, and to his surprise the eggs and parents had disappeared. His first impression was that some other person had taken them. After looking carefully around he perceived both birds at a short distance and this led him to institute a search, which soon resulted in finding that the eggs must have been removed by the parent birds to the face of a muddy bank at least forty yards distant from the original nest. A few decayed leaves had been placed under them, but nothing else in the way of lining. A third egg had been added in the interim. There can hardly be any doubt of the truth of the foregoing facts. (*Macfarlane.*)

I have sets of eggs taken in Muskoka and southern Labrador, also others from northern Manitoba and northern Saskatchewan. One of the sets was taken at Lake St. Joseph, Muskoka, Ontario, by J. D. McMurrick. The nest was built in a tall pine and contained four handsome eggs. (*W. Raine.*) A regular breeding species throughout Manitoba and noted at several points between Portage la Prairie and Edmonton, Alta., in 1906. (*Atkinson.*)

357*a*. Black Merlin.

Falco columbarius suckleyi RIDGW. 1873.

A common summer resident along the coast of British Columbia. Abundant on Vancouver island. (*Fannin.*) Resident in the lower Fraser valley; commoner than the pigeon hawk. (*Brooks.*) One seen at Sooke, Vancouver island, August, 1893; one taken at Douglas, B.C., in 1906. (*Spreadborough.*) Examples seen on the coast should be classed under this name, though Mr. Fannin has both forms west of the Coast range. A specimen from Victoria is in the collection. (*Rhoads.*) A small dark hawk was indistinctly seen flitting from the top of a spruce, Cumeshewa inlet, Queen Charlotte islands. Mr. Keen reports it from Massett. (*Osgood.*)

358. Richardson Merlin.

Falco richardsonii RIDGW. 1870.

One specimen, the only individual of this species observed, was taken on the headwaters of the Mouse (Souris) river (near the International Boundary, lat. 49°), 8th September, 1873. (*Coues.*) During the first week of May, 1904, I observed several pairs of these birds in poplars along the Belly river, Alta. (*W. J. Brown.*) Rare at Aweme, Man., in late autumn, winter and early spring. (*Criddle.*) One specimen was shot by the writer at "the elbow" of the South Saskatchewan, Sask., 9th September, 1880.

A single pair was seen in the neighbourhood of Carlton House in May, 1827, and the female was shot. In the oviduct there were several full-sized white eggs, clouded at one end with a few bronze-coloured spots. The specimen killed at Carlton House is, beyond doubt, an old female merlin just beginning to have its new feathers. (*Richardson.*) Carlton House was situated about lat. 53° on the North Saskatchewan, about 100 miles north of the Canadian Pacific Railway. Macfarlane had no certainty of the occurrence of this species on the Anderson river, and I am inclined to believe that only stragglers reach the North Saskatchewan. Nutting records it from the Grand rapids of the Saskatchewan.

Taken at Chilliwack on the Fraser by Mr. Brooks and near Victoria by Mr. A. H. May. (*Fannin.*) Occurs in migrations only, both east and west of the Coast range, B.C.; a few individuals seen at

Lake Okanagan in the winter of 1897-98. (*Brooks.*) One shot at the head of Lake Okanagan, B.C. (*Rhoads.*) At Circle, Alaska, I shot a young female merlin, which is intermediate between *columbarius* and *richardsonii.* (*Bishop.*)

Breeding Notes.—Breeds in Alberta and western Saskatchewan. The first authentic set on record is in my collection. It was taken by Mr. Roy Ivor, south of Moose Jaw, Sask., on May 20th, 1893. The nest, containing four eggs, was made of sticks and weeds and built in a poplar tree-top. The next set recorded was found by J. E. Houseman, at Calgary, Alberta, May 12th 1894. Mr. Houseman kindly sent me these eggs to make drawings of some time after he collected them. It is a handsome clutch and is now in the collection of Mr. Crandell. Mr. Dippie has also taken eggs, young birds and parents near Calgary. A handsome set in my cabinet was taken at Fort Saskatchewan, May 17th, 1899, showing this bird usually has eggs by the middle of May. In 1906 we found several pairs in the Belly River bottoms at Lethbridge, Alta., nesting in old nests of the magpie. The female sits very close and does not fly out of the nest until one begins to climb the tree. The male bird is always on the look-out, perched on some tree-top not far from the nest. (*W. Raine.*) Mr. W. J. Brown, in *The Ottawa Naturalist,* Vol. xx, p. 111, gives a very full account of the nesting of this bird near Lethbridge, Alta. He found the first nest, May 7th, 1904. It was an old magpie's nest situated in a poplar about seven feet from the ground. The nest contained a set of five eggs, which were simply laid on the crumpled mud. During the next three weeks Mr. Brown located three magpie's nests containing full sets of merlin's eggs. Early in June Mr. Brown found another set of five eggs in a deserted nest of the rough-legged hawk.

358.1. **Merlin.**

Falco merillus (Gerini.) Oberholser. 1899.

A specimen caught at sea, lat. 57° 41′ N., long. 35° 23′ W., in May, 1867, by Mr. E. Whymper, and by him presented to the Norfolk and Norwich museum, seems to have reached the most western limit of the species known. (*Arctic Manual.*) A specimen of this species was shot at Cape Farewell, Greenland on 3rd May, 1875, which is now in the collection of the public museum at Milwaukee, Wisconsin. (*Bendire,* Vol. I., 304.)

359.1. Kestrel.

Falco tinnunculus LINN. 1758.

One said to have flown on board ship off Cape Farewell, south of Greenland, on Parry's first return voyage, and killed. (*Arctic Manual.*)

360. American Sparrow Hawk.

Falco sparverius LINN. 1858.

Dr. Coues saw a single individual of this species in Labrador. It is not rare in Newfoundland, and breeds in Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario. Its occurrence in small numbers and breeding is recorded by many observers. Dr. R. Bell took a male at York Factory, Hudson bay, and Preble saw it at several points between Lake Winnipeg and Hudson bay. Spreadborough observed it from Missinabi north to Moose Factory. Seton, Atkinson and Criddle say that it is very plentiful in Manitoba, and the writer's own observations and those of Mr. Spreadborough give the same result for the whole prairie region, including Saskatchewan and Alberta. It is a common species in the valleys of the Rocky mountains at Banff and westward. Abundant at Revelstoke, on the Columbia, where it was first seen in 1890, on April 9th. Later it became quite plentiful and was abundant down the Columbia to Robson. This species is abundant westward through British Columbia, but doubtless becomes mixed with the desert sparrow hawk in the country around Lake Okanagan. Mr. Fannin reports it common on the coast and Vancouver island.

Richardson places its northern limit in lat. 54°, but Spreadborough found it to be common between Lesser Slave lake and the Peace river, Atha., and Ross saw it as far north in the Mackenzie river valley as Lapierre House, though rather rare. In Alaska it is very rare, as Nelson says only one specimen was known until Krause found them numerous on Chilcat river near the end of August. Bishop saw this bird, however, at several places along the Yukon river, between Log Cabin and Circle.

BREEDING NOTES.—This is the commonest of our small hawks and breeds every year in suitable places in eastern Ontario. It selects a hole, usually a flicker's, in a dead pine or some other tree,

and lays its eggs about 15th May. I have seen the young able to fly in July. (*Rev. C. J. Young.*) Breeds in Toronto, Ont., and around the city, as well as in the Parry Sound district. (*J. H. Fleming.*) This bird seems to prefer holes in trees, the old nests of the flicker are probably the ones used. The eggs, five in number, are of a buff or pale yellowish brown, with splashes of dark brown all over, but most numerous at the greater end. About the first week in May, the nest may be looked for in the neighbourbood of Ottawa. (*G. R. White.*) Breeds always in cavities in trees—eggs, 4-6. (*W. E. Saunders.*) Breeds sparingly on islands in the St. John river and on large burnt areas in New Brunswick. For a number of years a pair nested in a spire of a church entering at a hole made by *Colaptes auratus*. (*W. H. Moore.*)

This species was first seen in 1892 at Indian Head, Sask., on 16th April, and was common by the 24th. It breeds in the woods and in trees in the stream valleys. A nest was found in an old flicker's nest in a poplar, June 5th; it contained five eggs. In April, 1894, it began to breed on the 17th in holes in poplars. On the 27th May, 1895, a nest was discovered in a flicker's hole in a box elder tree on Old Wives' creek, Sask. The female sat so close that she had to be shoved with a stick before she would move. The nest contained five eggs of a deep cinnamon buff, but becoming brown or cinnamon at the larger end. This species is also common on Vancouver island, always breeding in holes. It feeds upon mice, young birds, grasshoppers and other insects and on one occasion I saw one catch a small snake. I have seen nests from sixty to seventy feet above the ground. (*Spreadborough.*) It breeds in the interior at least as far north as Fort Rae, Great Slave lake, in lat. 62° N. (*Bendire*, Vol. I., 309.)

360*a*. **Desert Sparrow Hawk.**

Falco sparverius phalœna (Lesson) Nelson. 1902.

Near the mouth of Milk river, Montana, June 30th, 1874, collected by Dr. Coues. (*Mearns* in *The Auk*, Vol. IX., 266.) Abundant resident; Mr. Brewster informs me that my Chilliwack specimens of *sparverius* belong to this form. It is a permanent resident throughout the southern part of British Columbia; a few remain at Lake Okanagan all winter. (*Brooks.*) Common in woods along

Maple and Skull creeks, Sask. Found six nests in 1905 and one in 1906 in natural cavities and in woodpecker's holes. (*A. C. Bent.*) Nesting commonly at Lethbridge, Alta., in May, 1906, laying five or six eggs in old woodpecker's holes. (*Raine.*) Medicine Hat, Sask.; common along the 49th parallel between Trail and Cascade, and westward from Midway to the Skagit and Fraser valleys. (*Spreadborough.*)

CLI. **POLYBORUS** Vieillot. 1816.

362. Audubon Caracara.

Polyborus cheriway (Jacq.) Cab. 1848.

The occurrence of this species on the north shore of Lake Superior, not far from Port Arthur, on July 18th, 1892, is reported by Mr. George E. Atkinson, to the Natural History Society of Ontario. (*William Brewster* in *The Auk*, Vol. X, 364.)

CLII. **PANDION** Savigny. 1809.

364. American Osprey.

Pandion haliaëtus carolinensis (Gmel.) Ridgw. 1870.

A single specimen was obtained at Godhavn, Greenland, by Mr. E. Whymper and sent to the museum at Copenhagen. (*Arctic Manual.*)

This species is a common summer resident and generally distributed along rivers or the borders of lakes, in Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick and Quebec. It is rarer in Ontario and seldom found breeding west of Toronto. Westward it is found under the same conditions throughout the prairie regions and the mountains to the Pacific coast, though neither Atkinson nor Criddle have found it breeding in Manitoba. Northward it is found in all the forest country to the edge of the Barren Grounds and beyond the Arctic Circle in the valley of the Mackenzie. In Alaska, Nelson places its breeding range beyond the Arctic Circle, so that it breeds almost throughout its range.

Breeding Notes.—About the beginning of May the osprey commences to build. Its nest is built near the top of a tall tree

and is apparently occupied year after year by the same birds. Each year a fresh layer of dry sticks is laid on top of the old nest and it soon becomes a very bulky structure. The female lays two or more eggs. A nest found at Lake of Islands north of Ottawa, Ont., would be nearly six feet across and is apparently made of large sticks, weeds, cornstalks and bark. (*Geo. R. White.*)

This bird is becoming very scarce along the St. Lawrence. During the last ten years I have only seen a few examples. A nest was found on May 23rd, 1900, at Gananoque lake, built on top of a large broken pine, which contained three eggs. This is the only case I know of its breeding in the county of Leeds, Ont., but I formerly saw its nest frequently in the counties of Lanark and Renfrew, built on top of pine stubs. (*Rev. C. J. Young.*) Generally distributed in the Muskoka and Parry Sound districts. I met with a nest in the centre of a heronry in Parry Sound. (*J. H. Fleming.*)

Three specimens were observed on Moose river, near Moose Factory, James bay, June 7th, 1896. A pair were breeding in the top of a dead spruce tree. None were observed further north. In 1904 found a pair breeding at the junction of the Poplar and Moose rivers. Nest on the top of a dead spruce about fifty feet from the ground. (*Spreadborough.*) The fish-hawk breeds about four miles up Northwest river above Hudson Bay Company's station, Labrador. (*Packard.*)

Breeds amongst the lakes of Muskoka, Ont. In June, 1893, we shot a specimen at Banff, Rocky mountains, and Mr. Fear informed me a pair had a nest behind Tunnel mountain. I have a series of 200 eggs of the osprey and they are the most handsome of all hawk's eggs; this bird usually lays three eggs, but occasionally four. (*W. Raine.*) Almost invariably there is a fish-hawk nesting with the great blue heron at Sydney, Cape Breton island. At the heronry I visited, the hawks chased the herons whenever they came near the nest, but Bayley tells me that the hawks have been with the herons for several years. Later I was told of several former colonies, and in each case a fish-hawk nested among the herons. (*C. R. Harte.*)

An abundant summer resident throughout British Columbia. Its nest is usually on the broken top of a tree, not far from water. (*Fannin.*) Common throughout Vancouver island. Nest very bulky and generally placed on the broken top of a tall dead tree.

I have seen a few nests, however, on living trees. The food of this species consists principally of fish. I have watched them, after flying slowly over a shallow bay, stop and hover for a few seconds, then close their wings and drop like a meteor upon some luckless fish which they seldom fail in catching. On a few occasions I have seen them with snakes. Their nest is a huge heap of sticks, usually placed on the top of a tall stub, scarcely ever less than fifty feet from the ground. (*Spreadborough.*)

Family XXIX. **STRIGIDÆ.** Barn Owls.

CLIII. **STRIX.** Linnæus. 1758.

365. American Barn Owl.

Strix pratincola Bonap. 1838.

Apparently rare in Newfoundland, only one specimen taken. (*Reeks.*) In May, 1882, a specimen was killed by young Mr. Reid, gardener, York street, Hamilton, and in the fall of the same year another was found in an empty out-house near the canal leading to Dundas. Dr. Garnier, of Lucknow, Ont., saw one some years ago; and Mr. C. J. Brampton, of Sault Ste. Marie, reports having seen two at that place. (*McIlwraith.*) A specimen was captured alive on a coal dock near the bay-front, Toronto, on September 7th, 1899. The bird soon died and proved to be a male. This is the only Toronto record of which I am aware. (*J. H. Fleming* in *The Auk*, Vol. XVII., p. 177.) In the Bryant collection in the Museum of Comparative Zoölogy there is an American barn owl taken by Mr. Louis Cabot at Long Point, Ont., early in November, 1899. The specimen (No. 1482) was secured for the collection by Mr. H. B. Bigelow. (*Reginald Heber Howe, jr.*, in *The Auk*, Vol. XIX., p. 79.)

Family XXX. **BUBONIDÆ.** Horned Owls, &c

CLIV. **ASIO.** Brisson. 1760.

366. American Long-eared Owl.

Asio wilsonianus (Less.) Coues. 1882.

This species, like most of the owls, is so retiring in its habits that their absence from a district is more apparent than real. On this account we conclude that it breeds in its range from New-

foundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario westward. We have records of its occurrence in all these provinces, but not as being anywhere common. Hutchins records it from Fort Severn, Hudson bay.

After long watching I at last found a small colony of these birds (seven in number) in a cedar swamp some miles from the city of Ottawa, Ont., and secured a fine pair on the 1st November, 1901. (*G. R. White.*) Rarely observed in eastern Ontario. One specimen shot near Lynn, Leeds county, in the fall of 1893. (*Rev. C. J. Young.*) Common fall migrant, but rare summer resident, at Toronto, Ont. (*J. H. Fleming.*)

This is a tolerably common summer resident in Manitoba, and evidently breeds throughout the province. (*E. T. Seton.*) One of the most regular breeding species in Manitoba, and observed occasionally in 1906 west to Edmonton in the more wooded districts. (*Atkinson.*) One seen at Indian Head, Sask., on April 13th, 1892, but not seen again until June. The one killed had a white-footed mouse and some large beetles in its stomach. On May 8th, 1894, a pair was seen at Medicine Hat, Sask., and others were seen on Old Wives creek, Sask., May 1895; it was not observed anywhere in the Rocky mountains, but was not uncommon in the woods at Edmonton, Alta., in May, 1897; a pair seen at Sicamous, B.C., in July, 1889, and a single specimen at Penticton, April 23rd, 1903. (*Spreadborough.*) This bird has been found as far north as lat. 60°, and probably exists as far north as the forest extends. It is plentiful in the woods skirting the Saskatchewan plains, and frequents the shores of Hudson bay only in summer. (*Richardson.*) North to Fort Simpson on the Mackenzie; rare. (*Ross.*) Common throughout British Columbia. (*Lord.*) Rare; I have taken it on Vancouver island only. (*Fannin.*) Not common in the lower Fraser valley; resident; not uncommon on Lake Okanagan in the winter of 1897-98; resides in the Cariboo district of British Columbia throughout the winter. (*Brooks.*) Rare everywhere but likely to turn up anywhere in British Columbia. (*Rhoads.*)

Breeding Notes.—Not common, breeds in old crow's nests. Eggs five or six. (*W. E. Saunders.*) A pair found breeding in an old rough-legged hawk's nest on Bear creek, Sask., with five eggs nearly hatched, June 2nd, 1905. (*A. C. Bent.*) Tolerably common

in woodlands in Manitoba, nesting on the ground or in old crow's nests. (*Criddle.*) May 20th, 1881, found a nest in a clump of willows about 20 miles west of Winnipeg, Man.; nest, a small bundle of sticks lined with the inner bark of the willow, about eight feet from the ground; eggs, three. Found a nest not quite finished at Medicine Hat in the spring of 1894 in a Manitoba maple; nest about the same height from the ground as the first. Saw another nest at Edmonton in the spring of 1897 in a black spruce tree; all the nests were alike, composed of sticks and lined with dry grass, and near water. The long-eared owl feeds upon mice and small birds, also upon insects; I have found a number in their stomachs. (*Spreadborough.*) On May 22nd, 1893, I found a nest at Oak lake, Man. that was only five feet from the ground; it contained five eggs. This bird is an early breeder and usually has fresh eggs by the end of April or early in May, but the next species—the short-eared owl—is a late breeder and seldom has eggs before June. (*W. Raine.*) During the last few years the long-eared owl has been found by Mr. E. Beaupré breeding in the neighbourhood of Cataraqui marsh, near Kingston, Ont., in April, laying its eggs in an unused crow's nest located in a pine tree. (*Rev. C. J. Young.*)

367. Short-eared Owl.

Asio accipitrinus (PALL.) NEWT. 1872.

A scarce species in Greenland, but perhaps breeds there, though not further to the south than lat. 65°. Its northern range altogether unknown, but it has been shot on the Green island in Disco bay, lat. 68° 50′. (*Arct. Man.*) Rather common and quite generally distributed throughout the region west of Hudson bay. (*Preble.*) Fort Churchill, Hudson bay. (*Clarke.*) Fort Churchill and York Factory, Hudson bay. (*Dr. R. Bell.*) Very abundant on both shores of James bay in 1904. (*Spreadborough.*) This species is a summer resident at Fort Chimo, Labrador; specimens obtained in Davis inlet; plentiful on the east shore of Hudson bay. Not known to winter in the Ungava district. (*Packard.*) Rather common at Port Manvers and Nachvak, Labrador, in September. (*Bigelow.*) A summer resident but not common in Newfoundland. (*Reeks.*) Not common in Nova Scotia, but breeds there. (*Downs.*) Summer resident in Nova Scotia but more common during migrations. Sometimes remains all winter. (*H. F. Tufts.*) Rare at St. John,New

Brunswick. (*Chamberlain.*) Not uncommon some years ago at Scotch Lake, York county, N.B. (*W. H. Moore.*) On July 22nd, 1889, two were seen by Mr. Gardenain, on Niapisca island, one of the Mingan group, Quebec. (*Brewster.*) An owl believed to be this species was seen in the marshes on the Magdalen islands. (*Bishop.*) Summer resident in Quebec. (*Dionne.*) A common, but transient visitant at Montreal; more plentiful in the autumn. Specimens taken at Montreal in October, 1889 and 1890, and others seen at Boucherville island in October, 1892. (*Wintle.*) A pair was shot October 6th, 1883, by Mr. G. R. White, and one was seen the same month by Mr. W. L. Scott; these are the only records. (*Ottawa Naturalist*, Vol. V.) This is a commoner species than the long-eared owl and is likely more northern in its range. I have often observed this species skimming noiselessly over the inlets and moist meadows along the shores of Hamilton bay. (*McIlwraith.*) The only records I have heard of in the districts of Parry sound and Muskoka are of two found at Port Sidney by Mr. Kay. Regular migrant, common in the autumn at Toronto, Ont. (*J. H. Fleming.*) These birds visit us in varying numbers at Toronto each fall. During October, 1896, they were particularly abundant and while walking on the island it was not at all unusual to see upwards of a dozen on the wing at the same time. Everywhere on the island their advent was clearly marked by the vast numbers of bird remains scattered around, among which I noticed those of many of the woodpeckers. I also noticed the remains of several smaller owls which leads me to conclude that they are not altogether innocent of cannibalism. (*J. Hughes-Samuel.*)

This species is tolerably common in Manitoba, but is a dweller amongst the marshes and is seen there chiefly. It breeds throughout the province. (*E. T. Seton.*) Two individuals were seen at Indian Head, Sask., April 6th, 1892; soon afterwards they became common, and began to breed. They fly often in the daytime in bright sunlight and on one occasion I saw one fly aimlessly about for over an hour and clapping its wings together so rapidly that they sounded like a rattle; quite common at Medicine Hat and Crane lake, Sask., in May and June, 1894; in July, 1895, they were common along Milk river and on the West Butte, lat. 49°, Alta.; a few individuals seen at Edmonton, Alta., in May, 1897; not rare between Lesser Slave lake and the Peace river in 1903; not observed

in the Rocky mountains, but seen in the Fraser valley at Agassiz in May, 1889. (*Spreadborough.*) More numerous and more generally distributed than the preceding species, breeding in grass fields and marshes instead of woods. Noted at several points along the Grand Trunk Pacific railway west to Edmonton, Alta. (*Atkinson.*) A fair number to be seen in summer in the Red Deer district, Alta. (*W. E. Saunders.*)

This owl is a summer visitor in the Northwest Territories, arriving as soon as the snow disappears and departing in September. We observed it as far north as lat. 67°, and a female killed at Fort Franklin on the 20th May, contained several pretty large eggs nearly ready for exclusion. (*Richardson.*) North of Fort Simpson on the Mackenzie; common. (*Ross.*) Sumas and Chilliwack prairies. (*Lord.*) Found only on the coast; a male was taken at mid-day at New Westminster. (*Streator.*) Abundant, both on the island and on the mainland; remains on the coast throughout the winter. (*Fannin.*) Abundant resident in the lower Fraser valley, B.C.; rather common in the Okanagan district in winter; occurs in the Cariboo district in winter. (*Brooks.*) Vancouver and Lulu islands and about the lakes of the interior. (*Rhoads.*) The short-eared owl was noted everywhere during the summer from the vicinity of Cape Blossom up to the Kowak, at Kotzebue sound, Alaska. (*Grinnell.*) This species is a regular and common migrant and summer resident at St. Michael and is found as far north as Kotzebue sound where skins were procured in 1880. (*Nelson.*) This is the commonest bird of prey in Alaska. It is to be found on all of the mainland and Aleutian islands. (*Turner.*) Numerous specimens were collected at St. Michael and one at Unalaska. (*Bishop.*) Not uncommon in most places visited by us at the base of the Alaskan peninsula in 1902. (*Osgood.*) Occasionally seen on the Pribilof islands, especially in winter. (*Palmer.*) A series of nine specimens was collected at Point Barrow, Alaska, June, 1898. (*McIlhenny.*)

Breeding Notes.—Not uncommon in the fall in eastern Ontario. One specimen shot near Lansdowne, Ont., in 1891. Breeds every year on the Magdalen islands, Gulf of St. Lawrence. This bird forms a slight nest on the ground amongst carex, sedge, etc., sometimes among low bushy shrubs, and lays from five to nine eggs in the month of June. I have a set of nine eggs taken June 14th, 1898, in the northernmost part of the islands, and have no doubt a

few pairs breed there every year. A nest containing seven eggs was found in Cataraqui marsh near Kingston, Ont., on May 23rd, 1902, by Mr. Ed. Beaupré, Kingston. It was in a wet but grassy place. Last year (1906) I was fortunate enough to see a nest myself in Cataraqui marsh, containing two well grown young on May 30th. (*Rev. C. J. Young.*)

Twelve nests of this species were found in various situations in the "barrens" as well as in wooded tracts, but all were on the ground, and mere depressions apparently scraped for the purpose, and lined with dried grasses and withered leaves; a few feathers were noticed in about half of them, and they seemed to have been plucked from her breast by the parent bird. She occasionally sits very close on her nest. The number of eggs in a nest varied between three and five, and but one contained as many as seven. On 30th June, 1865, an owl was observed flying about a particular spot in the barren grounds, and we concluded that its mate was not far off, a suspicion confirmed by its uneasy excitement as soon as a search was instituted. Myself and four of our party were thus fully engaged over an hour ere success rewarded our efforts by the female getting off her nest in the centre of a small clump of dwarf willows, one foot in height, just as she was almost trodden upon. It was composed of withered grasses and feathers, and contained five eggs. We must have frequently approached her in the course of our protracted search. (*Macfarlane.*)

I have found this species nesting in Manitoba and Saskatchewan, making its nest on the ground; it lays from five to seven eggs. I have three sets that were taken at Shoalwater bay and Mackenzie bay, arctic America. One set of five eggs was taken June 6th, 1898, another set of four, June 4th, 1890, and another set of five, June 7th, 1898, so that the first week in June appears to be the time this bird has fresh eggs in the arctic regions. The Eskimo name for this bird is Nipaiclooktik. (*W. Raine.*)

CLV. **SYRNIUM** Savigny. 1809.

368. **Barred Owl.**

Syrnium varium (Barton) Preble. 1902.

Apparently a summer resident but not common in Newfoundland. (*Reeks.*) Several specimens of the barred owl have been taken at Moose Factory, James bay. (*Preble.*) A common resident of

Nova Scotia both winter and summer. (*Downs; Gilpin; Tufts.*) An abundant resident in New Brunswick. (*Chamberlain.*) A permanent resident at Scotch Lake, York county, N.B.; tolerably common. (*W. H. Moore.*) Taken at Beauport; a resident in Quebec. (*Dionne.*) A permanent resident at Montreal, but not common. I shot a female and male specimens October 25th, 1889, and February 8th, 1890, on the spur of Mount Royal. (*Wintle.*) A moderately common resident in the Ottawa district. (*Ottawa Naturalist,* Vol. V.) Along the southern boundary of Ontario the barred owl is by no means rare, but farther north I have not heard of it being observed. (*McIlwraith.*) A common resident in Parry Sound and Muskoka districts; also at Câche lake, Algonquin park. Regular winter resident at Toronto, Ont. (*J. H. Fleming.*) The most northern point I have met this bird is Whitney on the Parry Sound railway, northern Ontario. (*J. Hughes-Samuel.*) A rare resident in the London district. (*W. E. Saunders.*) Rare and probably migratory. A summer resident though rare; more common east of Winnipeg, Man. (*E. T. Seton.*) I have two records of this species for Manitoba, one at Ochre river, the other within the Portage la Prairie town limits. (*Atkinson.*) This species was described from a specimen sent from Hudson bay by Mr. Graham. I have never observed the bird in my travels in America. (*Richardson.*)

Breeding Notes.—A few of these birds are met with every year along the St. Lawrence but it is not common. The nest has been found in a hole in a tree near Kingston, Ont., and a few years ago I saw five young birds that were shot about a mile outside of the town of Brockville, Ont., in July. (*Rev. C. J. Young.*) Rare; no authentic record of its breeding near London, Ont., though doubtless it does so. (*W. E. Saunders.*)

369*a*. Spotted Owl.

Syrnium occidentale caurinum C. H. Merriam. 1898.

I saw a specimen of this owl which was taken a few miles down the Fraser from Chilliwack, B.C.; apparently confined to the lower Fraser valley, where it is a rare and local resident. (*Brooks.*)

CLVI. SCOTIAPTEX Swainson. 1837.

370. Great Gray Owl.

Scotiaptex nebulosa (Forster) Preble. 1902.

Specimen No. (32,306) in the Smithsonian Institution collection was obtained by James McKenzie at Moose Factory, James bay. No record from any other part of the country. (*Packard.*) One seen on the Humber river, Newfoundland, August 28th, 1899. (*L. H. Porter.*) A specimen taken a few years ago in Pictou county, Nova Scotia, is the only one known except one in the collection of the late Dr. McCulloch. (*Gilpin.*) Occurs in winter at Grand Manan, N.B. (*Herrick.*) Taken at Lorette; resident in northern Quebec. (*Dionne.*) A scarce winter visitant at Montreal. During the winter of 1889–90 this owl appeared at Montreal in great numbers and many specimens were taken. (*Wintle.*) A rare winter visitor at Ottawa. (*G. R. White.*) A specimen was shot November 20th, 1905 by Mr. M. W. Kelley a farmer of South March, fourteen miles from Ottawa. (*Rev. G. Eifrig.*) In southern Ontario this species is a casual visitor in winter only. I have seen specimens taken in Muskoka and at Hamilton. (*McIlwraith.*) Sometimes abundant in the Parry Sound and Muskoka districts in winter. Occurs irregularly about Toronto, Ont.; it sometimes appears in southern Ontario in numbers, but is usually absent, such migrations are rare, the last one at Toronto was about 1889; the last Toronto specimen was recorded in 1896. (*J. H. Fleming.*) On 28th February, 1896, a specimen was taken on Toronto island. In December, 1898, I saw one, taken at Whitney, on the Parry Sound railway, and I was shown two fine specimens which were taken at Scotia Junction, on the same railway the preceding year. (*J. Hughes-Samuel.*)

Rare winter visitor in Manitoba. Found chiefly along the Red river and at Lake Winnipeg. (*E. T. Seton.*) An irregular winter visitor in Manitoba, some years abundant, others entirely absent. (*Atkinson.*) Rare at Aweme, Man. (*Criddle.*) One seen at Lesser Slave lake, Atha., and another between that lake and Peace River Landing in 1903. (*Spreadborough.*) This imposing bird which was first described from Hudson bay is by no means a rare bird in the Northwest Territories, being an inhabitant of all the wooded

districts lying between Lake Superior and lat. 67° or 68°, and between Hudson bay and the Pacific. It is common on the borders of Great Bear lake; and there and in the higher parallels of latitude must pursue its prey during the summer months by daylight. It keeps however, within the woods and does not frequent the barren grounds like the snowy owl. (*Richardson.*) A rare species; shot at Sumas only. (*Lord.*) A rare species; I have one specimen, taken at Chilliwack, B.C., in November, 1887; and another that was taken at Stewart lake, B.C., lat. 54°, 1891. (*Fannin.*) Rare at Chilliwack; most probably breeds; rare in winter at Lake Okanagan, B.C. (*Brooks.*) One shot at Vernon, B.C., was mounted by Mr. Pound last year, 1891. (*Rhoads.*) This fine owl is a common and well known resident throughout all the wooded parts of Alaska from Sitka north to the northern tree limit, and from the vicinity of Bering strait throughout the territory. (*Nelson.*) This species is a resident of the Yukon valley and was obtained on the coast at Uphim slough, the northern part of the Yukon delta. (*Turner.*) Reported by Bishop from two or three places in the interior of Alaska.

Breeding Notes.—I should not say that this owl was in "great abundance" in the Anderson region, as inadvertently stated on page 33, Vol. III. of the Land Birds. We certainly observed very few specimens, and we found but one nest, that referred to in the same paragraph, on the 19th July, 1862, near Lockhart river, on the route to Fort Good Hope. It was built on a spruce tree at a height of about twenty feet, and was composed of twigs and mosses thinly lined with feathers and down. It contained two eggs and two young, both of which had lately died. The female left the nest at our approach and flew to another tree at some distance, where she was shot. (*Macfarlane.*)

During the winter of 1895-96 Mr. Dippie and myself received over a dozen of these birds in the flesh that were shot in Alberta. We also received about 50 American hawk owls in the flesh that same winter. Settlers informed me that the whole of Alberta swarmed with owls and they remained until April when all migrated north except one pair of great gray owls which remained and nested in the Red Deer River district, and Mr. Dippie secured the eggs along with the parent which is probably the only record of this bird ever nesting as far south, as its summer home is along Great Bear lake

and northward. It breeds at the mouth of the Mackenzie river, arctic America, making a nest of sticks and weeds in the highest spruce trees it can find. (*W. Raine.*)

370*a*. Lapp Owl.

Scotiaptex nebulosa lapponica A. O. U. Committee, 1903.

A single specimen of this species was taken in the Yukon delta on April 15th, 1876, and sent to me. It is said to be quite rare. (*Turner.*)

CLVII. CRYPTOGLAUX Richmond. 1901.

371. Richardson Owl.

Cryptoglaux tengmalmi richardsoni (Bonap.) Richmond. 1901.

Recorded from Repulse bay and York Factory. It probably occurs throughout the Hudson bay region. (*Preble.*) A possible resident of Newfoundland, but I have not seen it. (*Reeks.*) Rare winter visitor in Nova Scotia. (*Downs*; *Gilpin*; *Tufts.*) Occasionally met with at St. John, N.B. (*Chamberlain.*) One taken at Scotch Lake, York county, N.B., in winter. (*W. H. Moore.*) Taken at Beauport; winter resident in Quebec. (*Dionne.*) A scarce winter visitant at Montreal. (*Wintle.*) This is a winter visitor at Ottawa, Ont., and has been taken by Mr. G. R. White and seen by Mr. Lees. (*Ottawa Naturalist*, Vol. V.) My specimens of this species were shot at Toronto, Ont., and I have very few records of its occurrence in other parts of the province. (*McIlwraith.*) Winter migrant of irregular occurrence at Toronto. Mr. Kay has met with one or two in the Parry Sound district. (*J. H. Fleming.*) Probably resident in the wooded sections of Manitoba. A common winter visitor; in January, 1885, Mr. Hine of Winnipeg showed me several dozen skins taken that fall near Winnipeg. (*E. T. Seton.*) A regular and rather common winter visitor in Manitoba. (*Atkinson.*) Rather rare winter visitor at Aweme, Man. (*Criddle.*) I cannot state the range of this species but believe that it inhabits all the wooded country from Great Slave lake to the United States. On the banks of the Saskatchewan it is so common that its voice is heard almost every night by the traveller wherever he selects

his bivouac. (*Richardson.*) This owl, or one very like it, was repeatedly observed in the country between Fort Good Hope and Anderson river. (*Macfarlane.*) North to Fort Simpson on the Mackenzie; rather rare. (*Ross.*) A rare winter visitant at Chilliwack, B.C.; a considerable irruption of this owl occurred throughout the southern interior during the winter of 1898-99; rare in the Okanagan district in winter; resident throughout the winter in the Cariboo district, B.C.; taken at Quesnel, Cariboo district, B.C., in 1901. (*Brooks.*) This handsome little bird is common throughout all northern Alaska, wherever trees or bushes occur to afford it shelter. (*Nelson.*) This owl does not occur at St. Michael, on the coast. It inhabits the wooded districts. (*Turner.*)

Breeding Notes.—This small owl is occasionally met with in eastern Ontario in the late fall. I have seen a specimen shot near Kingston. It breeds not uncommonly on the Magdalen islands, usually selecting a hole that had been made by the "flicker" in a dead spruce stub. I saw two sets of eggs, of four and five respectively taken in 1898. The set of four together with part of the remains of the parent bird, killed by ravens that occupied an adjoining tree, I now have. These were laid early in April. The other set was taken on May 3rd, the old bird being captured on the nest at the same time. (*Rev. C. J. Young.*) Dr. George informs me that the Richardson owl nests in northern Alberta. (*W. Raine.*)

372. Saw-whet Owl.

Cryptoglaux acadica (Gmel.) Richmond. 1901.

Specimen (No. 32,301) in Smithsonion Institution collection was obtained at Moose Factory, James bay, by James McKenzie. (*Packard.*) A not uncommon summer migrant in Newfoundland. (*Reeks.*) A resident but becoming rare in Nova Scotia. (*Downs.*) A common resident in Nova Scotia. (*Gilpin.*) Present throughout the year at Wolfville, York county, N.S.; most common in winter. (*H. F. Tufts.*) A pair heard at Sydney, Cape Breton island, June 12th, 1902. (*C. R. Harte.*) Resides throughout the year, but more common in winter at St. John, N.B. (*Chamberlain.*) Permanent resident; not common; breeds at Scotch Lake, York county, N.B. (*W. H. Moore.*) Taken at Beauport; resident in Quebec. (*Dionne.*) Permanent and common resident at Montreal. I have taken this

little owl, May 24th, 1884, in the woods below Hochelaga; also on Isle Jesus and Mount Royal. (*Wintle.*)

A moderately common resident in the Ottawa district. (*Ottawa Naturalist*, Vol. V.) This species though a resident in Ontario is of infrequent occurrence and in some winters is not seen at Hamilton while in others it has been taken in numbers. (*McIlwraith.*) Not common at Emsdale; reported as resident at Port Sydney, Parry Sound and Muskoka districts; generally distributed but not abundant in Ontario; large flocks have been seen on Toronto island in the autumn; a regular winter resident at Toronto, probably breeds as I have a young bird taken May 15th, 1889, and another in August; observed at Câche lake, Algonquin park. (*J. H. Fleming.*) Not common in summer in the London district, though young have been found; more often noticed in winter and fall. The fact that twenty-four of these were found dead in the few miles I covered on the coast of Lake Huron in 1906 proves this species to be migratory. (*W. E. Saunders.*)

A rare resident; noted only on Red river and eastward in Manitoba. (*E. T. Seton.*) A very irregular migrant and irregularly distributed in Manitoba. Appearing in numbers some seasons and others entirely absent. May possibly breed but never noted during the summer. (*Atkinson.*) Rare at Aweme, Man. (*Criddle.*) Blindman river, Alta. (*C. F. Dippie.*) At Edmonton, Alta., but not noticed in the mountains until the Columbia River was reached; a few specimens were seen in the Columbia River valley at Arrow lake in June, 1890; others were seen at Sicamous in July, 1889, and one heard at our camp on the Skagit river, B.C. on the night of July 1st, 1905. (*Spreadborough.*) This owl was not noticed on the route of the expedition, but specimens were sent from New Caledonia by Mr. Archibald McDonald. (*Richardson.*) Obtained only east of the Coast range. (*Lord.*) Not by any means common; I have taken it in winter at Burrard inlet; and a few have been taken on Vancouver island; Mr. Anderson reports it from Port Simpson, B. C. (*Fannin.*) Tolerably common at Chilliwack, B.C.; a possible resident; common in the winter at Lake Okanagan, B.C.; resident in winter in the Cariboo district, B.C. (*Brooks.*) An immature male was taken at Vernon, B.C., in July, 1892. (*Rhoads.*)

Breeding Notes.—I have a set of five eggs of this owl taken May 23rd at Scotch Lake, N.B. The eggs ranged from fresh to incubation

well begun, showing that incubation begins when the first egg is laid. The nest was in an old nest of *Colaptes auratus* twenty feet up in a spruce stub. (*W. H. Moore.*) A nest taken in April, 1902 contained six eggs. Another was found in King's county in April, 1906, in the deserted nest of a flicker. It was twenty feet from the ground in a pine stub in dense woods. (*H. F. Tufts.*) This owl breeds sparingly along the St. Lawrence, as in June, 1892, I saw a young one captured alive on one of the wooded islands of the river. The bird has also been obtained near Kingston, Ont., (*Rev. C. J. Young.*) A young bird in pin feathers was shot near St. Thomas, Ont., in June. Doubtless breeds in some of the heavy cedar swamps. (*W. E. Saunders.*) I have a set of eggs taken north of Peterboro, Ont., May 17th, 1894. The eggs were laid in a woodpecker's hole. (*W. Raine.*)

372*a*. Northwest Saw-whet Owl.

Cryptoglaux acadica scotaea (Osgood.)

This dark-coloured form of the Acadian owl doubtless ranges throughout the humid Pacific coast region. Its rarity probably accounts for its having been previously overlooked, for its characters are in general the same as those of the numerous other forms peculiar to the same region, which have long been recognized in nomenclature. The only specimens that I have examined besides the type are several imperfect ones from Puget sound, which are in the National Museum collection. These agree with the type in richness of colour and extent of dark markings. The type was collected by Rev. J. H. Keen, who very generously presented it to the Biological Survey collection. A small owl, apparently this species, flew over our vessel at 11 o'clock on the night of July 4th, while we were at anchor in Houston Stewart channel. This was the only owl seen at any time during our visit to the islands. (*Osgood.*) Puget sound region north to Queen Charlotte islands. (*A. O. U. Check-list, eleventh Suppl.*)

CLVIII. MEGASCOPS Kaup. 1848.

373. Screech Owl.

Megascops asio (Linn.) Stejn. 1885.

A summer migrant in Newfoundland and tolerably common. (*Reeks.*) Apparently very rare at St. John, N.B.; but said to be common and breeds at Grand Manan. (*Chamberlain.*) Very rare

at Scotch Lake, York county., N.B. (*W. H. Moore.*) Winter visitant at Montreal, but scarce; both forms occur here. (*Wintle.*) After hunting and watching for some years, in December, 1902, I obtained my first specimen of this owl, taken at Ottawa, Ont.; it was in the gray or normal phase, and in fine plumage. (*G. R. White.*) In the same month a fine specimen was taken by Mr. Young, at Hurdman Bridge, near Ottawa, and another was seen sitting in a tree on Daly avenue, Ottawa, in open day. (*Macoun.*) This species has been definitely established as breeding at Ottawa. In July and August, 1906, Mr. Geo. White found at various times four to five in a rarely used outbuilding to which they had found an entrance but could not find an exit. (*Rev. G. Eifrig.*)

This is the most abundant of the owls in the vicinity of Hamilton, and as many as forty were seen during the winter of 1883-84; in 1885-86 not a single individual was seen. (*McIlwraith.*) Rare at Emsdale; Mr. Kay reports it as resident at Port Sydney, Muskoka and Parry Sound districts; breeds about Toronto in limited numbers. The red phase of plumage is rare, usually occurring for several years in succession and then disappearing. (*J. H. Fleming.*) A fairly common resident in the London district, but only occasionally noted in Bruce county, Ont. (*W. E. Saunders.*) Mr. Hunter claims the screech owl for Manitoba saying: "I saw a pair at Sabaskong bay, Lake of the Woods, and in 1871 heard them at Point du Chene." (*E. T. Seton.*) Rare at Aweme, Man. (*Criddle.*) The writer reported this species from near Fort Pelly, Man., but discovered later that it was the Acadian owl.

Breeding Notes.—One of the owls that is becoming more numerous than formerly, and breeding in suitable woodlands in eastern Ontario. I both hear of and have seen it on Wolfe island, and have seen the young near Lansdowne. It is a common thing to hear it at night in the fall. Recently it has been found breeding in the grounds of Rockwood Asylum, Kingston, Ont. (*Rev. C. J. Young.*) Well distributed in the London district; breeds in cavities in trees. (*W. E. Saunders.*)

373*d*. Kennicott Screech Owl.

Megascops asio kennicottii (Elliot) Stejn. 1885.[1]

The type of this bird in the tawny brown phase, was taken at Sitka and described by D. T. Elliott. Within the last few years

we have learned that it extends down the northwest coast from Sitka to Oregon. (*Nelson.*) I obtained a male from Mr. Lindley of Victoria, B.C. (*Rhoads.*) An abundant resident throughout British Columbia. Breeds in the neighbourhood of Victoria. (*Kermode.*) Seen at Masset, Queen Charlotte islands by Mr. Keen. (*Osgood.*) Bishop and Osgood saw two specimens of what they thought to be this form at Cariboo Crossing, B.C.

373*h*. Macfarlane Screech Owl.

Megascops asio macfarlanei BREWST. 1891.

Southern portion of the mainland of British Columbia east of the Coast range. (*Fannin.*) A specimen seen at Sicamous, B.C., July 16th, 1889, is referred here. (*Macoun.*)

373*k*. Puget Sound Screech Owl.

Megascops asio saturatus BREWST.

Vancouver island and coast of southern British Columbia; breeds in the neighbourhood of Victoria. (*Fannin.*) Common resident in the lower Fraser valley. (*Brooks.*) Common in the woods around Chilliwack lake, B.C., July and August, 1901; a common resident throughout Vancouver island. (*Spreadborough.*)

CLIX. BUBO DUMERIL. 1806.

375. Great Horned Owl.

Bubo virginianus (GMEL.) BONAP. 1838.

Summer resident in Newfoundland and breeds. (*Reeks.*) Common on the Humber river, Newfoundland. (*L. H. Porter.*) Abundant throughout the year in Nova Scotia. (*Downs; Tufts.*) Both breeds and winters in Nova Scotia and Cape Breton island. (*Gilpin.*) A common resident in New Brunswick. (*Chamberlain.*) Several young observed in the Restigouche valley, N.B. (*Brittain & Cox.*) Permanent resident; rare at Scotch Lake, York county, N.B. (*W. H. Moore.*) Once seen and frequently heard, Cumberland county, N.S., winter of 1897-98. (*Morrell.*) Fort Churchill, Hudson bay. (*Clarke.*) Taken at Beauport; a resident in Quebec. (*Dionne.*) A common, permanent resident at Montreal. I saw two of these

owls October 18th, 1885, in woods at St. Martin Junction, and two others the next year in the same place ; in both cases they were mobbed by crows. Many specimens are taken in the vicinity. (*Wintle.*) Two individuals observed on Moose river, northern Ontario, June 2nd, 1896. None seen while crossing Ungava. (*Spreadborough.*) A rare resident in the Ottawa district. (*Ottawa Naturalist*, Vol. V.) This species is generally distributed throughout Ontario and is very variable in colour. (*McIlwraith.*) A common breeding species and a resident in the districts of Parry Sound and Muskoka; regular winter resident but rare in summer around Toronto, Ont.; also in Algonquin park, a few breed. (*J. H. Fleming.*) On the 29th March, 1897, I took one of these birds whose stomach contained the greater part of a crow, primaries and all. If this powerful rascal is in the habit of paying nocturnal visits to the roosting places of the crows in bad weather it is small wonder that the retaliative instinct asserts itself in daylight. (*J. Hughes-Samuel.*) Observed three young ones and an old one on the Missinabi river, June 20th, 1904. (*Spreadborough.*) Well distributed throughout the London district; breeding in large nests in the early spring. (*W. E. Saunders.*) The typical form occurs in British Columbia as well as every possible intergrade between the darkest *saturatus* and *subarcticus*, almost light enough for *arcticus*. (*Brooks.*) A discussion of the horned owls of Washington and British Columbia will be found in an article in *The Auk*, Vol. X., p. 18 (1893). It is probable that all the races of *Bubo virginianus* are to be found in British Columbia. (*Rhoads.*)

Breeding Notes.—When we first came to Muskoka they were very rare, I only observed two in twenty years, but during that time the barred owl was very abundant. Since the horned owl has become common it has almost disappeared and now one seldom hears or sees one and the horned has become just as common as the barred used to be. This leads me to think that it has been killed or driven away by the other. The horned owl is not beneath killing a mouse if there is no larger game about but I think hares are its chief food during the winter. It kills a good many skunks in the summer. On one occasion my brothers found one that had seized a skunk which had bitten it so badly that it had died from the wounds. It kills muskrats in the fall when they are building their houses and when they are out upon the marshes

getting grass to build with. One night two winters ago one came into a barn-yard and killed two geese. The farmer caught it in a trap a few nights after. These owls are usually found along the rivers and streams in thick woods. The western form in Manitoba and the northwest is usually found in willow thickets along the banks of streams and the edges of sloughs. I have seen them time and again fly from a log or a stone, up the bank of a stream at my approach, which leads me to think that they are very fond of bathing and washing themselves, although I never saw one in the act. They feed chiefly upon the hares that live in the thickets. (*Spreadborough.*) This species builds in holes in trees when such can be found, it also builds in hemlock, beech or other large trees in the vicinity of Ottawa. The nest is placed near the trunk of the tree and is composed of dry sticks, probably lined with leaves and feathers, the eggs are two or three in number. (*G. R. White.*) A fairly common species along the St. Lawrence, but rapidly becoming rarer. I have seen the nest several times; one near Perth, Ont., in a tamarack tree not more than twelve feet from the ground, which on May 30th, 1886, contained two young ones just able to fly. It is a very early breeder; on the 11th April, 1895, I found a nest with two much incubated eggs. The nest occupied was in a yellow birch, and the previous year had been tenanted by a pair of red-shouldered hawks. This nest was again occupied by the owls three years later. Again in 1899 I found the nest in a hemlock about sixty feet from the ground on March 28th, when the weather was very cold and snow covered the ground. This nest contained two eggs, incubation far advanced. This owl is easily kept in confinement and does not appear to suffer from changes of weather. I have had one for fifteen years. (*Rev. C. J. Young.*) A nest of this species found in May, 1900, containing two large young, had beneath it numerous fragments of birds and mammals, among the former were remains of a broad-winged hawk, two red-shouldered hawks and one red-tailed hawk. This is our earliest resident breeder; full sets have been taken as early as February 24th near London, and all the eggs are generally laid by March 10th. (*W. E. Saunders.*)

375*a*. Western Horned Owl

Bubo virginianus subarcticus (Hoo.) 1852.

Of recent record at Toronto, Ont.; there are none in old collections. I have examined four well marked birds since 1893; of these two

were typical, the others rather more heavily marked but none approached *occidentalis*, there being comparatively little ochraceous underlying the white. (*J. H. Fleming.*)

This form is a common resident in Manitoba wherever there is timber. Evidently a common permanent resident in Manitoba. (*E. T. Seton.*) Geographical location alone seems to distinguish this variety from plain *virginianus* and the lighter variety *arcticus*, as the three types merge so gradually into one another that the line of distinction cannot at times be otherwise drawn. I have grouped all those specimens taken in Manitoba under this type but I believe specimens showing all characteristics of the other varieties can be readily secured in Manitoba as all shades and sizes are handled every season when there is any extensive movement among the owls. Horned owls, whatever they may ultimately prove to be, breed regularly and commonly through all the wooded districts of Manitoba and west to Edmonton. Frequently very small and light coloured birds are secured either spring or fall and possibly these will prove to be *arcticus*. (*Atkinson.*) Tolerably common resident at Aweme, Man. (*Criddle.*) Fine specimens of this form were taken at Indian Head, Sask., in May, 1892; at Medicine Hat and Crane lake, Sask., May, 1894; and in the Cypress hills in June of the same year; a few were seen on Old Wives creek, Sask., and at the West Butte, lat. 49°, Sask., 1895; occasionally seen at Banff, Rocky mountains, in the summer of 1891; observed near Cascade and on Sophie mountain, B.C., at the International Boundary in July, 1902; one taken at Agassiz, B.C., May, 1889. (*Spreadborough.*) This bird is found in all parts of the Northwest Territories where the timber is large and was taken by Mr. Drummond in the Rocky mountains. (*Richardson.*) North to Arctic Circle and beyond, on the Mackenzie river. (*Ross.*) Abundant east and west of the Coast range. (*Lord.*) Common in British Columbia. (*Streator.*) An abundant resident throughout the province. (*Fannin.*) Rather common in the lower Fraser valley. (*Brooks.*) This bird is found throughout the entire wooded part of northern Alaska, extending its range in autumn to the open treeless shore along Bering sea and portions of the Arctic coast. (*Nelson.*) This bird is only an occasional visitor at St. Michael, its place on the barren grounds being taken by the snowy owl. (*Turner.*)

Recorded by Bishop from many places in Yukon and Alaska, and reported by Osgood to be common in the parts of Alaska traversed by him in 1902.

Breeding Notes.—September 18th, 1884; Portage la Prairie: Mr. C. W. Nash gives me a very interesting note on a pair of horned owls that had nested in the woods here, and from the indications observed there seems little doubt that they subsist chiefly on fish, which were abundant in a small creek running from a lake through these woods to the Assiniboine river. On examining the gizzards of two of the young of this pair which Mr. Nash shot, he found them full of fish. At one place there were, unquestionably, evidences of an owl having seized a large fish with one foot and held on to the bank with the other. The creek being very small, and surrounded with large bare trees, is a favourite run between the river and the lake for large fish at night, so that all the circumstances are very favourable for the prosecution of the piscatorial pursuits of the owls. On the 8th May, 1884, I found a pair of these birds in possession of an old nest in the Big Swamp on the Assiniboine river, south of Big Plain. This nest was about 30 feet from the ground, in the crotch of a poplar tree, which was as yet without leaves. The nest was formed of sticks and twigs and was indistinguishable from that of a red-tailed buzzard. Once or twice I tried to shoot the old bird on the nest, but she was too wary, and evidently had all her wits about her even in the day time. (*E. T. Seton.*)

As early as 20th March, 1892, at Indian Head, Sask., a pair of these birds was nesting. On May 24th I visited the nest and took the two young birds home with me. They soon became quite tame and would allow me to stroke them, and although they often pecked my hands they never were able to draw blood. They seem to have little power with their beak. By July 7th they were as large as the old ones. It depends very much on their food how often they eject pellets. If fed on chopped gophers, skins and all, they would eject about five times a week, if on the bodies of birds that had been skinned, about three times a week. On June 3rd found a nest with two very young ones. Their eyes were not open yet, and they seemed only about five days old. On the 7th one opened its eyes and on the 10th the other one. They were quite white when very young and altogether without ear tufts. Their eyes are very small

at first and the iris a dirty white, and it was not until they were a month old that their eyes attained the bright yellow appearance. (*Spreadborough.*)

375*b*. Arctic Horned Owl.

Bubo virginianus arcticus (SWAINS.) CASS. 1854.

The following citations are all probably referable to *subarcticus* but without the specimens this cannot be determined.

One shot near Duck mountain, Manitoba, in the fall of 1883; another individual was taken by Macoun in October, 1880, in the Touchwood hills, Sask. (*E. T. Seton.*) This very beautiful owl appears to be rare, one specimen having been seen flying at mid-day in the immediate vicinity of Carlton House and was brought down by an arrow by an Indian boy. (*Richardson.*) One seen at Peace River Landing, Atha., in 1903. (*Spreadborough.*) This owl or the other variety was repeatedly observed in the country between Fort Good Hope and the Anderson river. (*Macfarlane.*) This pale-coloured form is sometimes seen in northern Alberta where it breeds. (*W. Raine.*) Bent and Bishop collected four specimens in western Saskatchewan which were all more or less intermediate being fully as light coloured as the average arctic but having spotted rather than pure white feet.

375*c*. Dusky Horned Owl.

Bubo virginianus saturatus RIDGW. 1877.

Not rare at Fort Chimo, Ungava. Resident. Downy young obtained June 20th, 1884. (*Packard.*) A rare winter visitant at Montreal. I purchased a fine specimen of this owl, February 8th, 1892, in the Bonsecours market, which was shot at Boucherville four days previously. (*Wintle.*) Among the horned owls taken at Toronto in winter are a few very dark birds usually of large size and apparently referable to the form *heterocnemis* of Oberholser. (*J. H. Fleming.*)

This species is an extremely dark-coloured form of the horned owl, found along the damp, heavily wooded south coast of the Alaskan territory, and extending its range southward to Washington. (*Nelson.*) An abundant resident west of the Coast range. (*Fannin.*)

Saw two near Elko, B.C., May 14th, 1904, and two young half-grown May 20th. Also observed this species at Midway, Meyer creek, Sidley and Skagit river, B.C. (*Spreadborough.*) Mr. Anderson collected an adult male on Sheep creek and another at Caribou camp, Kenai peninsula, Alaska, which are referred here by Mr. Chapman.

Breeding Notes.—A fine skin of the dark-coloured race of the genus *Bubo* with the two eggs was collected for me by Mr. Dicks at Sandwich bay, Labrador. The eggs were taken May 1st, 1896, and the nest was built in the top of a spruce, a large structure of sticks, weeds and rubbish. (*W. Raine.*) April 10th, 1903, at Penticton, B.C., I found a nest in a cluster of branches growing from the trunk of a large cotton-wood tree. It was made of a large bundle of sticks and contained two nearly fresh eggs. I am not sure of this bird. It is rather dark for the western and not dark enough for the dusky. (*Spreadborough.*)

Note.

Mr. H. C. Oberholser in Proc. U. S. Nat. Mus. xxvii, 1904, p. 177-192, has published a revision of the American great horned owls which were it followed here would make necessary many changes in the names of the varieties known to occur in Canada and a re-arrangement of the geographical limits given them in the first edition of this catalogue. As most of the published citations refer to specimens which we have not seen, the old arrangement has been retained but the names and distribution of the several forms as given by Mr. Oberholser are printed below. So many observers record two or more intermediate forms from the same locality that it is almost certain that yet further changes will have to be made in the geographical distribution given by Mr. Oberholser.

Great Horned Owl.

Asio magellanicus virginianus (Gmelin.)

Southern Canada and eastern United States, west to Ontario.

Mr. Oberholser cites no specimens from Ontario or the Eastern States, and does not mention Quebec, Nova Scotia or New Brunswick. We know that the species breeds in those three provinces and we infer that either an undescribed form or the Labrador form is the resident breeding variety.

Labrador Horned Owl.

Asio magellanicus heterocnemis, Oberholser Proc. U.S. Nat. Mus., Vol. XXVII, 187.

Labrador, including at least north coast of the territory of Ungava. Specimens from the following locations have been seen: Okkak; Makkovik; Hopedale; Turnavik island; and Lance au Loup in Labrador. Fort Chimo; and Near Forks, Fort Nascopee, Ungava.

Arctic Horned Owl.

Asio magellanicus wapacuthu (GMELIN.)

Northern Canada, from Hudson bay to the valley of the Mackenzie river; south in winter to the northern United States. Specimens have been examined from Fort Resolution, Slave river, seventy-five miles below Fort Smith, in Mackenzie territory. In Saskatchewan from Moose lake and the Pas. In Ontario from Moose Factory, James bay, and from Michipicoten island, Lake Superior.

Dusky Horned Owl.

Asio magellanicus saturatus (RIDGWAY.)

Pacific coast region from Washington north to southern Alaska. Specimens examined from Kamloops; Lund, and Ashcroft, B.C.; also from Sitka, Alaska.

Alaskan Horned Owl.

Asio magellanicus algistus OBERHOLSER.

Northwest coast region of Alaska. Specimens have been examined from St. Michael, Kowak river, lower Yukon river, Port Huron and Aleknagik river, Alaska.

British Columbia Horned Owl.

Asio megallanicus lagophonus OBERHOLSER.

Washington and northern Oregon (excepting the coast region), with Idaho; north through eastern and central British Columbia to Cook inlet and the interior of Alaska. Specimens examined from Vernon, B.C.; and from Nulato, Fort Yukon; Hope, Cook inlet; Knik, Cook inlet; and Kowak river, Alaska.

CLX. **NYCTEA** STEPHENS. 1826.

376. Snowy Owl.

Nyctea nyctea (LINN.) LICHT. 1854.

Very common in Greenland in summer; more numerous in the northern Inspectorate than in the southern. Found also on the eastern coast and extends westward to Liddon island and Melville island, lat. 75°. (*Arct. Man.*) Seen now and again on Ellesmere island. (*E. Bay.*) A rare winter visitor at Ivigtut, Greenland. (*Hagerup.*) Common throughout the country. Breeds at Fort Chimo, Ungava. (*Packard.*) A few specimens were seen in the early spring about Fullerton, Hudson bay. They are reported by the natives to breed inland. At Cape Dufferin on the east side of Hudson bay upwards of thirty of these birds were caught by placing fox traps on the top of short poles, at intervals along the coast during the southern migration in 1901. (*A. P. Low.*) Noted by various arctic expeditions at several points to the north and northwest of Hudson bay. (*Preble.*) Tolerably common and probably resides all the year in Newfoundland. (*Reeks.*) Some years plentiful and others scarce in Nova Scotia, seen only in winter. (*Downs.*) A common and often an abundant winter resident; seen on Sable island, N.S., in August, 1854. (*Gilpin.*) A winter visitor at St. John, N.B.; reported as occasionally spending the summer.(*Chamberlain.*) Winter visitor; rare at Scotch Lake, York county, N.B. (*W. H. Moore.*) Taken at Beauport; a winter visitant at Quebec. (*Dionne.*) Winter visitor at Montreal; some years it is scarce and others more plentiful. In the winter of 1891-92 I saw exposed for sale at one time in Bonsecours market five females and two males. (*Wintle.*) A winter visitor in the Ottawa district. (*Ottawa Naturalist,* Vol. V.) An irregular winter visitor in Ontario, sometimes appearing in considerable numbers and again being entirely absent. (*McIlwraith.*) This owl is found in both the Parry Sound and Muskoka districts in winter, but is not common, except in years of unusual migrations. A regular migrant at Toronto, very large numbers have appeared about the city at irregular intervals; the flight of 1901-02 extended from December to April. (*J. H. Fleming.*) The snowy owl is commonly met with in the fall and winter in eastern Ontario and has been shot at Long point, Wolfe island, near Kingston. (*Rev. C. J. Young.*) This species seems to prefer

the large marshes as a temporary home when it comes to southern Ontario, doubtless on account of their resemblance to the treeless regions to which it is accustomed. (*W. E. Saunders.*) This beautiful bird may be seen close to my house at Kew Beach, Toronto, almost every day in the winter, but they are very wary. They perch on the ice floes along the beach and keep out of gun range. My neighbour, Mr. Harold Douglas, shot one November 28th, 1901. When wounded they are very ferocious and a dog is afraid to attack them as they throw themselves on their backs and strike out rapidly with their sharp, strong claws, and woe to the dog that gets his face struck by the claws of a wounded white owl. This bird breeds within the Arctic Circle. (*W. Raine.*) In his paper on the snowy owl published in *The Auk*, Vol. XIX., p. 271 *et seq.*, Mr. Ruthven Deane gives an account of the unusual abundance of this bird in Canada during the 1901-2 migration.

A tolerably common winter resident in Manitoba. It arrives early in autumn and leaves in April. (*E. T. Seton.*) Has become very rare at Aweme, Man., in recent years, probably on account of its being invariably shot when chance offers. (*Criddle.*) Abundant from Norway House to Hudson bay in winter. (*Dr. R. Bell.*) One seen April 1st and the last on April 20th at Indian Head, Sask., in 1892. (*Spreadborough.*) A regular and in some seasons an exceptionally abundant winter resident throughout the west but not known to have been noted during the breeding season. (*Atkinson.*) This highly beautiful and powerful bird is common in the more northern parts of America. It frequents in summer the most arctic lands and hunts in the day as indeed it has to do. When I have seen it on the Barren Grounds it was generally squatting on the earth, and if put up it alighted after a short flight. It preys on lemmings, hares and birds. It makes its nest on the ground and generally lays four eggs. (*Richardson.*) North to Fort Norman; rare. (*Ross.*) This species is not plentiful in the Anderson country and we never secured an egg. (*Macfarlane.*) Not unfrequently seen near the entrance to the Fraser river. (*Lord.*) Resident in the northern portions of the province; south during some winters only, to the mouth of the Fraser and Vancouver island. (*Fannin.*) An irregular migrant at Chilliwack, B.C.; occasionally seen in winter at Lake Okanagan, B.C.; several mounted specimens were in the Cariboo district. (*Brooks.*) Taken at Skidegate and Masset, Queen

Charlotte islands. The miners and traders about Cook inlet, Alaska say that snowy owls have frequently been killed there in winter. It is a regular winter visitor at the base of the Alaskan peninsula. (*Osgood.*) From the Sitkan region north to the farthest point of Alaska this species keeps mainly to the more barren portions of the coast and interior, and always is found less numerous where trees are abundant. It occurs also on the islands in Bering sea and more sparingly on the Aleutian chain. (*Nelson; Turner.*) This bird may be said to be a resident at Point Barrow, although in the depths of winter it retreats with the ptarmigan back to the "deer country," that is, to the valleys of the large rivers running into the Arctic ocean east of Point Barrow. (*Murdoch.*) I found the snowy owl unexpectedly scarce in the vicinity of Kotzebue sound and when seen were mostly single individuals. (*Grinnell.*) Usually seen on the Pribylof islands, Bering sea in winter but occasionally in summer. (*Wm. Palmer.*)

Breeding Notes.—In Bendire's "Life Histories of N. A. Birds" is a record of a snowy owl nesting in Manitoba and having eggs advanced in incubation in the middle of February, but the time of the year—Manitoba midwinter—is sufficient to pronounce this record as a pure invention of the alleged finder of the nest—one calling himself Le Grand T. Meyer—this, no doubt, being a fictitious name. The nest is described as being made of hay, grass and sticks, warmly lined with feathers and eighteen inches high above the level prairie. The alleged finder of this nest evidently was never in Canada or he would know that the ground is usually covered deep with snow at this time of the year and that it would be an impossibility for the snowy owl to prevent itself being buried in the snow drifts; besides if the bird left its eggs for a few minutes they would get frozen and burst. I have a clutch of seven eggs and another of four eggs taken by Mr. Young, on Herschell island, west of Mackenzie bay. This bird nests on the highest parts of Herschell island, laying its eggs in a hollow lined with grass and feathers. I have another clutch taken at Baillie island in Franklin bay, June 20th, 1900 by Capt. Bodfish; the nests were on raised ground, the bird choosing sites so that it can overlook the surrounding country. (*W. Raine.*) This species is not plentiful in the Anderson country, while every effort made to secure even one specimen nest with its eggs proved unsuccessful; on one occasion we

noticed a white owl hunting marmots (*Spermophilus empetra*) in the barren grounds; and there can be no doubt that this and other owls sometimes rob ptarmigan, ducks, etc., of their eggs. (*Macfarlane.*)

CLXI. **SURNIA** DUMÉRIL.

377. Hawk Owl.

Surnia ulula (LINN.) BONAP. 1842.

The introduction of this bird into our fauna rests on the capture of a single specimen near St. Michael, Alaska, in October, 1876, by Mr. L. M. Turner. (*Nelson.*) The natives assert that this species is a resident and breeds in the vicinity of St. Michael, and also that it is a coast bird, not going far into the interior. (*Turner.*)

377*a*. American Hawk Owl.

Surnia ulula caparoch (MÜLL.) STEJN. 1884.

Recorded from many points in the Hudson bay region. (*Preble.*) Rare at Fort Chimo, Ungava; eggs obtained June 8th, 1884, and downy young nearly ready to leave the nest were taken June 20th. (*Packard.*) The commonest owl in Newfoundland or the one most frequently seen. (*Reeks.*) Now becoming very rare in Nova Scotia. (*Downs.*) Rare winter visitor in Nova Scotia. (*Tufts.*) A rare bird in New Brunswick, but occasionally taken. (*Chamberlain.*) Winter visitor; rare at Scotch Lake, York county, N.B. (*W. H. Moore.*) Fort Churchill, Hudson bay. (*Clarke.*) Fort Churchill and York Factory, Hudson bay. (*Dr. R. Bell.*) Rare at Lake Mistassini, northern Quebec; seen only in winter. (*J. M. Macoun.*) Taken at Beauport; not common in Quebec. (*Dionne.*) Transient visitor at Montreal. Some years this owl is common in the woods around Montreal and frequently shot in autumn or early winter. (*Wintle.*) A winter visitant at Ottawa, Ont., but rare. (*Ottawa Naturalist*, Vol. V.) Has been shot near Clarendon station, Frontenac county, Ont., but is quite rare. (*Rev. C. J. Young.*) In southern Ontario this species can only be regarded as a rare winter visitor; it seems to be more frequent in Muskoka and further north. (*McIlwraith.*) A few were taken some years ago, about Toronto, but it seldom comes here now; I have had

specimens from both Parry Sound and Muskoka districts; it is rare and not by any means a regular winter visitor. (*J. H. Fleming.*) I met with two birds of this species at Whitney, Parry Sound railway in December, 1898, and obtained another in the same month at Scotia Junction. (*J. Hughes-Samuel.*) No recent record of this species in the London district. (*W. E. Saunders.*) One specimen seen at Missinabi station, Ont., in 1904. (*Spreadborough.*)

This species is an irregular winter visitant in Manitoba, but Mr. Hunter states he is positive that it is a permanent resident and breeds in the wooded country east of the Red river. It is certainly common and very abundant some winters. (*E. T. Seton.*) A regular and numerous fall migrant and winter visitor but not known to breed in Manitoba. (*Atkinson.*) Rare at Aweme, Man. more so than formerly. (*Criddle.*) This is a common species throughout the Northwest Territories, and from Hudson bay to the Pacific. In summer it feeds principally on mice and insects, but in winter it preys chiefly on ptarmigan. (*Richardson.*) Common from Lesser Slave lake to the Peace river in 1903; one seen at Midway B. C., April 26th, 1905. (*Spreadborough.*) North to the Arctic coast on the Mackenzie; common. (*Ross.*) Rock Creek, Lake Osoyoos. (*Lord.*) A resident east of the Coast range; west occasionally to Vancouver island; breeds along the valley of the Similkameen. (*Fannin.*) Scarce at Chilliwack; probably breeds in the mountains of British Columbia; rare in the winter at Lake Okanagan, B.C. (*Brooks.*) Collected on Vancouver island by W. F. Findlay and at Vernon, B.C., by W. C. Pound. (*Rhoads.*)

I first met with the hawk owl near the head of Hunt river in the foothills of the Jade mountains, about 20 miles north of our winter camp on the Kowak, Kotzebue sound, Alaska. They arrived about April 10th, 1899, and left the preceding year on September 21st. (*Grinnell.*) Not uncommon at many points at the base of the Alaskan peninsula in 1902. (*Osgood.*) While at the upper edge of the timber line on Kenai mountains, Alaska, a pair of these owls was occasionally seen. Another specimen was seen during the latter part of September. (*Figgins.*) A female was taken at Sheep creek and a male at Moose camp, Kenai peninsula, Alaska in 1903. (*W. P. Anderson.*) This is perhaps the most abundant resident bird of prey throughout the entire wooded part of northern Alaska.

It is rather closely limited to the region of spruce and pine forests of the interior, and occurs along the open coasts of the Arctic and Bering sea merely as a straggler, and is unknown from the various islands of Bering sea. (*Nelson.*) This species is a very common resident in the Yukon district. Along the coast it is quite abundant. (*Turner.*)

Breeding Notes.—In the spring of 1899 their arrival was noted on April 10th in the Yukon district of Alaska. At this date they were already paired, and a female secured contained large ova. On April 26th I located a pair of hawk owls which by their restlessness indicated a nesting site near by. The nest was finally found, but there were as yet no eggs. It was in the hollow end of a leaning dead spruce stub about 10 feet above the ground. The dry rotten chips in the bottom were modelled into a neatly rounded depression. The male bird was quite noisy often repeating a far-reaching rolling trill. Both birds frequently uttered a low whine, alternately answering one another. On May 8th, while snow-shoeing across the country toward the base of the Jade mountains, my attention was attracted by the distant trill of a hawk owl. After a half hour's search through a heavy stretch of timber, I located the bird perched at the top of a tall live spruce, partly hidden by the foliage. Then I began an inspection of all dead stubs and trees in the vicinity. I had given up hope of finding a nest and had started on, when, by mere chance, I happened to catch sight of a hole in a dead spruce fully 200 yards away. A close approach showed a sitting bird which afterwards proved to be the male. Its tail was protruding at least two inches from the hole, while the bird's head was turned so that it was facing out over its back. When I tapped on the tree the bird left the nest, flew off about thirty yards, turned and made for my head like a shot. It planted itself with its full weight on to my skull, drawing blood from three claw-marks in my scalp. My hat was torn off and thrown twelve feet. All this the owl did with scarcely a stop in its headlong swoop. When as far on the other side the courageous bird made another dash and then another, before I had collected enough wits to get in a shot. The female which was evidently the bird I had first discovered on look-out duty then made her appearance, but was less vociferous. The nest contained three newly hatched young and six eggs in various advanced stages of incubation. The

downy young, although their eyes were still tightly closed and they were very feeble, uttered a continuous wheedling cry, especially if the tree were tapped or they were in any way jarred. This could be heard 20 feet away from the base of the tree. The nest cavity was evidently an enlarged woodpecker's hole. The wood was very much decayed and soft, so that it had been an easy matter to enlarge the entrance. The entrance was 14 feet above the snow, and the nest proper was three inches below that. The cavity was lined with a mixture of feathers and bits of the rotten wood. The feathers were all apparently from the breast of the female parent. The female bird (the male not at all, although he was sitting on the nest when it was found) had the whole breast and abdomen, from the upper end of the breast-bone to the vent, entirely bare of feathers, also on the sides up to the lateral feather tracts, and through these for about one inch on both sides under the wings; also down the inside of the thighs to the knees. This was the most extensive feather divestment I ever saw in any species. (*Grinnell.*)

The hawk owl is not uncommon in the regions of Anderson river, although only four nests were discovered and the eggs taken therefrom. All of these were built in pine trees at a considerable height from the ground; one was actually placed on the topmost boughs, and like the others, it was constructed of small sticks and twigs lined with hay and moss; the male and female of the latter were shot, and the nest contained two young birds, one of which was apparently ten days and the other three weeks old, together with an addled egg; all of the others, however, but one, had six eggs, and in a single instance as many as seven were secured; the parents always disapproved of our proceedings; very few owls were observed on the lines of march travelled over during the seasons of 1864 and 1865; this species winters in arctic America. (*Macfarlane.*) This bird breeds sparingly in northern Saskatchewan. Dr. George and Mr. Wenman inform me they have found it breeding in northern Alberta, around Red Deer; I have received eggs with the parent from northern Saskatchewan; the four eggs were taken June 6th, 1899, and the nest was built in a willow nine feet from the ground; this set was taken by F. Baines; I have another set of five eggs that was taken at Hamilton inlet, Labrador, May 24, 1896; this nest was built in a spruce tree top. (*W. Raine.*)

CLXII. **SPEOTYTO** GLOGER. 1842.

378. Burrowing Owl.

Speotyto cunicularia hypogœa (BONAP.) COUES. 1872.

First observed at a point on the International Boundary Line, a little east of Frenchman river, not far from the mouth of Milk river, where a few individuals inhabited a small settlement of prairie dogs (*Cynomys ludovicianus*). This seems to be about the northern limit of the species, and it is nowhere so abundant in this region as in many places further south. It was met with a second time a little west of Frenchman river, and for the third time, in somewhat greater numbers, on a piece of prairie near Sweetgrass hills. There were no prairie dogs here or at the locality last mentioned, so far as I know, but the ground was riddled with the burrows of the tawny marmot (*Spermophilus richardsoni*), which seemed to suit the owls just as well. (*Coues.*) The first Manitoba record of this species was a pair taken six miles north of Portage la Prairie on June 2nd, 1897, and brought to me. One of these is still in my collection. Since that time the birds have seemed to have accommodated themselves to conditions and increased in numbers in several parts of Manitoba cocupying deserted fox and badger holes, and they are now regular and increasing summer residents. I did not, however, note them west between Portage and Edmonton along the line of the G. T. P. Ry., I presume because our course lay too far north. They are a very prolific species. One nest dug out for me in 1904 contained eight young birds and these proved in many ways the most interesting pets I ever had. (*Atkinson.*) Rare at Aweme, Man., breeding in old badger holes. (*Criddle.*) I found this bird breeding in Saskatchewan at Rush lake, June 12th, 1891. I have only once taken the trouble to dig down to its eggs. It took two of us nearly an hour to get at the nest, which consisted of a hollow lined with cow dung and contained 7 eggs. The burrow went down three feet and then ran along another four feet to the nest. (*W. Raine.*)

On June 23rd, 1896, three pairs were found occupying holes on the prairie a little north of Moosejaw, Sask. The nests were not dug out, but the birds were nesting; in June, 1895, along Frenchman river, Sask., this species was occasionally seen. In May,

1894, Mr. Spreadborough took specimens at Medicine Hat and Crane lake, Sask., and in May, 1890, secured one at Revelstoke, B. C.; he also found a number of pairs breeding at Kamloops, B.C., in June, 1889. (*Macoun.*) I have three records of this species west of the Coast range, B.C. East of this range it is a tolerably common breeder in the semi-arid interior; taken as far north as Willow river, Cariboo district, B.C. in 1901. (*Brooks.*) East of the Coast range in British Columbia; not common. I have only found it in the neighbourhood of Kamloops, but have heard of it at Ashcroft. (*Fannin.*) A special trip was made in the vicinity of Kamloops and Ashcroft for this species, but no trace remained of the colonies once existing there. The last pair known to remain in that locality lived in a badger's burrow on the bank of Thompson river, near the ferryman's house. None have been seen at Kamloops or Ashcroft since 1890. (*Rhoads.*) Observed several near the Similkameen river, B.C., in 1905, and saw one at the head of Chilliwack lake, B.C., in 1906. (*Spreadborough.*)

CLXIII. GLAUCIDIUM Boie. 1826.

379. Pigmy Owl.

Glaucidium gnoma Wagl. 1832.

Common throughout British Columbia. (*Fannin.*) Interior British Columbia birds secured at Vernon are true *gnoma*. Mr. Pound says they winter there. (*Rhoads.*) Observed one, September 10th, 1902, on the highest peak of John Bull mountain, at over 7,000 feet altitude, near Salmon river, B.C. (*Spreadborough.*)

379*a*. California Pigmy Owl.

Glaucidium gnoma californicum (Scl.) A. O. U. Check-List. 1889.

Southern coast region of British Columbia. (*Fannin.*) Mr. Brewster informs me that all the British Columbian specimens which I have sent him are referable to this subspecies. Common resident at Chilliwack, Fraser valley; common in winter at Lake Okanagan, B.C. (*Brooks.*) A number of specimens taken at Chilliwack, B.C., in the autumn of 1901; one specimen taken near Victoria, V.I., April, 1887. (*Spreadborough.*) Numerous west of the Coast range, B.C. (*Rhoads.*)

Order COCCYGES. Cuckoos and Kingfishers.

Family XXXII. CUCULIDÆ Cuckoos.

CLXIV. COCCYZUS Vieillot. 1816.

387. Yellow-billed Cuckoo.

Coccyzus americanus (Linn.) Bonap. 1824.

Very rare in Nova Scotia, one taken near Halifax. (*Downs.*) A rare summer resident in New Brunswick. (*Chamberlain.*) Accidental visitant; rare. A few examples of this species have been shot on the island of Montreal. I am not aware of any occurring of late years. (*Wintle.*) A rare summer resident in Quebec. (*Dionne.*)

A summer resident at Ottawa, Ont. A pair nested in Lt. Col. White's garden in the city in 1890. (*Ottawa Naturalist*, Vol. V.) This species is rather scarce and not generally distributed in Ontario, and is believed to be more southern in its habit than the black-billed cuckoo. (*McIlwraith.*) Rather common summer resident at Toronto, Ont., where it breeds; it was regarded as very rare there until 1889. I have met with it nesting at Rosseau, and I believe it occurs at Emsdale in the Parry Sound and Muskoka districts. (*J. H. Fleming.*)

Breeding Notes.—Occasionally met with along the St. Lawrence, and as far north as the county of Renfrew, Ont. This bird is readily distinguished from the black-billed cuckoo by its larger size and the amount of white it shows in the outer tail feathers as it flies along. There are other peculiarities which distinguish it from the next species. I have found it to breed in the county of Leeds at least a weak or ten days earlier. Its nest also is further from the ground and very loosely put together. I have found its nest five times. The last two near Lansdowne, Ont., May 29th, 1898, and May 23rd, 1899. Each contained three eggs, incubation advanced. They are plainly larger and paler than eggs of the black-billed. A nest I found in May, 1888, near Renfrew, Ont., contained one egg. This nest was placed in a willow. (*Rev. C. J. Young.*) Twenty years ago this species was rather rare, but now it is more common than the black-billed and the latter is less so than formerly.

It is rarer in the Bruce peninsula where I have seen it but twice. It does not appear to lay more than four eggs in the largest set, while the black-billed sometimes has as many as six. (*W. E. Saunders.*) A summer resident around Toronto, Ont., but rather scarce. A pair nest every season a short distance from my house at Kew Beach. It is a late breeder, seldom having eggs before the middle of July. On July 20th, 1895, I found a nest containing two eggs at Kew Beach. The nest was built in a maple tree twelve feet from the ground. (*W. Raine.*) Nest taken at Ottawa, Ont., composed of twigs, leaves, rootlets and catkins, lined with some soft vegetable material. Eggs in sets of four to six of a pale greenish colour. (*G. R. White.*)

387*a*. **California Cuckoo.**

Coccyzus americanus occidentalis RIDGW. 1887.

While being transferred across the Fraser river at Mount Lehman we passed near an island where I heard the unmistakable notes of a cuckoo; I directed the boat to the spot and the bird was seen, but not taken. (*Streator.*) In May, 1881, I saw one of these birds at Burrard inlet, and in June, 1882, the late Mr. J. C. Hughes found a pair breeding at Kamloops; in June, 1887, I saw a pair at Skinner swamp near the city of Victoria, and from their actions I concluded they were breeding in that locality; later in the same year one was shot on Mount Tolmie. (*Fannin.*) Tolerably common summer resident at Chilliwack, and becoming more abundant in the coast region every year, probably on account of the invasions of the forest tent caterpillar. (*Brooks.*)

388. **Black-billed Cuckoo.**

Coccyzus erythrophthalmus (WILS.) BONAP. 1824.

Audubon, Vol. IV., p. 301, states that they saw a few individuals in clumps of low trees a few miles from the shore of the Gulf of St. Lawrence. (*Packard.*) One specimen obtained at Tignish, P.E.I. The only evidence I have of its occurrence on the island. (*Dwight.*) One seen on Sable island, N.S., August 5th, 1904 and one September 27th, 1907. (*James Boutelier.*) Not very common; a summer resident in Nova Scotia. (*Downs; Tufts.*) Fairly common at Wolfville, King's county, N.S. from May to September. (*H. F.*

Tufts.) Never seen around St. John, N.B., but common inland in summer. (*Chamberlain.*) A tolerably common summer resident York county, N.B. (*W. H. Moore.*) Common summer resident. Breeds in Mount Royal Park, Montreal, Que. (*Wintle.*) Summer resident in Quebec; taken at Beauport. (*Dionne.*) Common summer resident around Ottawa, Ont. (*Ottawa Naturalist*, Vol. V.) This species is a regular summer resident in Ontario, and though not abundant is generally distributed. (*McIlwraith.*) Fairly common around Toronto, and breeds; generally distributed over the Parry Sound and Muskoka districts. (*J. H. Fleming.*) Formerly much more common than at present; it is not usual to find more than a single pair of birds in a suitable small piece of woods. Their habit of having eggs and young in the same nest is well known. (*W. E. Saunders.*) On July 6th, 1900, one specimen came into the potato patch at Câche lake, Algonquin Park, Ont., and fed on the potato bugs. (*Spreadborough.*)

This species is a common summer resident throughout the wooded parts of Manitoba and has been taken by myself at Carberry and Shoal lake, near Duck mountain. (*E. T. Seton.*) A regular breeding species, quite common in Manitoba but not noted by me west of Fort Ellice. (*Atkinson.*) Apparently a rare species west of Manitoba. A female was first seen at Indian Head, Sask., June 24th, 1892, in a willow thicket; in a few days another female was seen and shot and an egg was found in her oviduct, which shows that the species breeds there. On the 19th May, 1894, one was seen at Medicine Hat, Sask., and another in the same place on June 3rd. None seen further west. (*Spreadborough.*) One seen by Mr. Day on Skull creek, Sask., June 5th, 1905. (*A. C. Bent.*)

Breeding Notes.—Summer resident, common. Breeds in Mount Royal Park. I have found their nests, containing eggs, from June 4th to July 22nd. Observed here from May 21st to September 5th. Their nests are generally built in thorn bushes, from one to eight feet above the ground, but small cedar trees are favourite building sites for them as well. This bird appears to have a remarkable habit of laying fresh eggs while those already laid are being incubated and hatched. The naked younglings are black in colour, and repulsive looking, but they harmonize with the nest, which is a slight structure of dead twigs, with a very shallow cavity, lined with a few dead leaves, the nest being very small for the size of the

bird and its eggs. The cuckoo seems to prefer solitude, and keeps itself out of sight in thickets, where its harsh notes can be heard sounding like "cow-cow" or "cuckucow" repeated quickly several times. (*Wintle.*)

A very common species in all the counties of eastern Ontario, especially at the foot of Lake Ontario, where early in June I have seen six or seven together. In 1897 I heard it at Pictou, N.S., and it was observed on the Magdalen islands in June, 1900. It usually builds a nest in a swampy thicket; twice I have found the nest almost on the ground, once in an elm sapling six feet above, but this is very unusual. The average time for laying is the end of the first week in June in eastern Ontario. Usually I have found two or three eggs in a nest, but once five, and June 13th, 1900, seven. This bird appears to arrive later in spring than the yellow-billed and certainly goes away earlier in the fall. (*Rev. C. J. Young.*) A summer resident around Toronto, Ont. I have several times seen its nest. I have also found it breeding in Manitoba and in Saskatchewan as far west as the Qu'Appelle valley. (*W. Raine.*) This bird nests in a low bush at Ottawa, Ont. Nest composed of twigs, strips of bark, dry grass and leaves, lined with grass. Eggs two to five of a light greenish blue. (*G. R. White.*) Nests are found at Ottawa and at Lake Nomininguc 100 miles north of it. They are made of branches and lined with dry leaves and catkins. The inside diameter has 2.50 inches by not more than one inch in depth, while the outside diameter has between 3 and 10 inches, according to the quantity of branches required for their solidity. They are built in coniferous trees and in all kinds of shrubs and placed at an elevation varying between 3 and 10 feet. The birds breed in June and July. I have found nests containing from two to five eggs, and others with one young bird, one hatched egg and one fresh egg. (*A. L. Garneau.*) Usually lays three eggs but I have found nests with eight in them and I am inclined to think that occasionally more than one bird lays in the same nest. Two or three broods are raised in a season. (*Criddle.*)

In the transactions of the Canadian Institute, Vol. I. pp. 48-50, an interesting account by Dr. C. K. Clarke of this cuckoo laying its eggs in the nests of other birds is published. Three cases are noted, and there is no doubt in the mind of the writer that the facts are as recorded by Dr. Clarke. All the cases were noted at

Elora, Ont. In the first case an egg was laid in the nest of a chipping sparrow from which in due time a young cuckoo was hatched. In the second case a cuckoo was seen coming from a yellow warbler's nest. Upon examination an egg was found to have been laid, and later on the young cuckoo was found with the young warblers which, as the cuckoo grew, were crowded from the nest. In the third case cited a cuckoo was actually found sitting on a chipping sparrow's nest. An egg was laid and hatched; the young sparrows were finally ejected from the nest by the young cuckoo.

CLXV. **CUCULUS** Linnæus. 1758.

388-1. Kamchatkan Cuckoo.

Cuculus canorus telephonus (Heine). Stejn. 1885.

An adult male of this species was collected on the sand dunes of Northeast point, St. Paul island, Bering sea, on July 4th, 1890. It is the only one of its kind known from North America. (*Palmer.*)

Family XXXIII. **ALCEDINIDÆ.** Kingfishers.

CLXVI. **CERYLE** Boie. 1828.

390. Belted Kingfisher.

Ceryle alcyon (Linn.) Bonap. 1837.

One of the most widely distributed birds in Canada. Common from Newfoundland and Labrador west to Vancouver island. North to Hudson bay in the east, to the mouth of the Mackenzie river and Kotzebue sound in the west.

Breeding Notes.—Summer resident, common. Breeds in suitable places on the island of Montreal. Two eggs taken May 24th, 1882, out of a burrow in a sandbank at Hochelaga. Observed here from May 8th to September 27th. (*Wintle.*) This is a common bird in eastern Ontario. Its nest is generally found in a sandy bank near water, but on two occasions I have found its nest in a sand pit some distance away. The full complement of eggs I have always found to be seven. These are laid between the 20th and 28th of May. I met with this bird in the Magdalen islands in 1897, and found it breeding there. (*Rev. C. J. Young.*) This species nests

abundantly on the shores of Lake Ontario, laying never more than seven eggs at the end of a tunnel in a bank. The tunnel is often three or four feet in length. (*W. Raine.*) Nests taken at Ottawa, Ont., always in a hole in a bank from four to eight feet deep. (*G. R. White.*) This bird digs a hole in a sandbank from three to six feet deep. There the space is made larger and is lined with crabs' (*Carambus*) shells. I have a set of seven eggs with embryos, taken on May 24th, another of five fresh eggs taken June 11th and I found six young birds in their nest on June 20th. The kingfisher will make its nest either on the banks of rivers or in the middle of fields. (*A. L. Garneau.*)

Common resident throughout Vancouver island. Nests in holes in banks, usually near water, but I have seen a few nests more than half a mile from water. (*Spreadborough.*)

Order PICI. Woodpeckers, Wrynecks, &c.

Family XXXIV. **PICIDÆ.** Woodpeckers.

CLXVII. **DRYOBATES** Boie. 1826.

393. **Hairy Woodpecker.**

Dryobates villosus (Linn.) Cabanis. 1863.

One seen at Hebert river, December 8th, and one at Shulee, January 2nd, Cumberland county, N.S. Winter of 1897-98. (*C. H. Morrell.*) Common resident in Nova Scotia. (*H. F. Tufts.*) Common migrant and rather rare winter resident at Toronto, Ont. My records are all between October 11th and April 4th, and it does not appear to breed here. This form is the one occuring in southern Ontario, at least south of Lake Nipissing and I have not found *leucomelas*. (*J. H. Fleming.*) Strangly enough, although the distribution of the present bird is eastern, and although in northern Alaska and the interior of British America it is replaced by a large northern form, yet the typical *villosus* also occurs in British Columbia and thence north along the southeastern coast of Alaska. (*Nelson.*) Specimens in the Geological Survey Museum collected by Spreadborough at Bracebridge, Ont., Edmonton, Alta., and Elko, B.C., by Tufts at Algonquin Park, Ont., and F. A. Saunders at Ottawa, Ont.,

seem to be true *villosus* and it is more than probable that many of the references under *leucomelas* should go here.

393*a*. **Northern Hairy Woodpecker.**

Dryobates villosus leucomelas (BODD.) RIDGW. 1885.

Reported from the Hudson bay region by several observers. It is likely that this bird ranges throughout the wooded portion of the region. (*Preble.*) Tolerably common in Newfoundland as a resident. (*Reeks.*) Fairly common along the Humber river, Newfoundland. (*L. H. Porter.*) Resident in southern portions of Labrador; probably does not occur north of the "height of land." (*Packard.*) Observed all along the Moose river to Moose Factory, James bay. None seen further north in Ungava in 1896. (*Spreadborough.*) York Factory, Hudson bay. (*Dr. R. Bell.*) Taken at Fort Churchill Hudson bay. (*Clarke.*)

Common resident in Nova Scotia. (*Downs.*) Common resident at Sydney, Cape Breton Island, N.S. (*C. R. Harte.*) Summer resident, Prince Edward Island and Cape Breton Island. (*Macoun.*) Abundant throughout the year in New Brunswick. (*Chamberlain.*) Permanent resident; breeds; rather common, York county, N.B. (*W. H. Moore.*) Uncommon in the valley of the Restigouche, N.B. (*Brittain & Cox.*) One specimen seen on Grindstone island, Magdalen islands. (*Bishop.*) Taken at Beauport; a common resident in Quebec. (*Dionne.*) A transient and scarce visitant in the vicinity of Montreal. I do not think this species breeds in the vicinity of Montreal, as I have only seen it in the months of October and November. (*Wintle.*) A common resident around Ottawa. (*Ottawa Naturalist,* Vol. V.) A resident, though not an abundant species throughout Ontario; more abundant at the north. (*McIlwraith.*) Fairly abundant at Whitney on the Parry Sound railway during December, 1898. (*J. Hughes-Samuel.*) Common and breeding in the Algonquin park, Ontario, July, 1900. (*Spreadborough.*)

A common resident in Manitoba in the poplar forest. (*E. T. Seton*) Common at Aweme, Man., more so in winter than in summer. Found wherever there are trees. The food in winter consists mostly of wood-borers. (*Criddle.*) An abundant species in Manitoba and observed in 1906 as far west as Edmonton, Alta. (*Atkinson.*)

This is a rare species on the margin of the prairie as only two were seen at Indian Head in the spring of 1892, and one at Medicine Hat in 1894; a tolerably common resident at Edmonton, Alta.; a few observed along the trail between Lesser Slave lake and Peace River Landing, Atha.; not uncommon in the foothills from Calgary south to Crow Nest pass in the Rocky mountains; observed about a dozen in the month of April, 1903 at Penticton, B.C.; common at Agassiz and Burrard inlet, B.C., in May, 1889. (*Spreadborough.*) Common at Grand Rapids on the Saskatchewan. (*Nutting.*) This species exists as far north as lat. 63°. It remains all the year in the Northwest Territories and is the commonest species up to the fifty-sixth parallel, north of which it yields in frequency to the three-toed species. (*Richardson.*) North to Fort Simpson, on the Mackenzie river; common. (*Ross.*) Common throughout the interior of British Columbia; breeds. (*Streator.*) East of the Coast range, B.C.; a common resident. (*Fannin.*) A common species in winter at Lake Okanagan, B.C.; tolerably common in the Cariboo district; I have taken this form several times in the lower Fraser valley. Common at Quesnel, Cariboo district, B. C., in 1901. (*Brooks.*) In a series of eight skins from British Columbia, one, a young female, lacks the white spotting on the wing coverts characteristic of *leucomelas*. (*Rhoads.*) This form, if it reaches the coast of Bering sea at all, reaches it by way of the Northwest Territories. The specimen in my collection was taken at Fort Reliance, on the upper Yukon, about Lat. 66°, and undoubtedly the bird straggles still further to the north. (*Nelson.*) An occasional individual of this species was seen in the timber belt, Kenai mountains, Alaska, but it was not common at any point visited. (*Figgins.*) Osgood took a single specimen on Fifty-mile river a few miles above Miles canyon, Yukon. (*Bishop.*)

Some of the western references mentioned above doubtless belong to *hyloscopus*.

Breeding Notes.—On June 11th, 1883, while in the spruce bush I heard a curious chirping sound that scarcely ever seemed to cease. I traced it to a small poplar tree, in whose trunk was a hole about 30 feet from the ground. Having procured an axe I soon had the tree down and found myself in possession of a nest of young hairy woodpeckers. They were in a hole, evidently the work of the parent birds, about a foot deep, 3 inches wide inside

and 2 at the entrance. The four youngsters were nearly grown and fledged, and consequently were much crowded in this narrow chamber. Three of them were precisely like the mother-bird in colour and the fourth differed only in having over each ear a cockade of rich yellow. (*E. T. Seton.*) A plentiful species in Ontario where I have met with it both in summer and winter. At the latter season it is often seen on wood piles in the vicinity of houses. It breeds along the St. Lawrence and northward. Unlike the other woodpeckers it is an early breeder, commencing its nest-hole the end of April and usually having its complement of eggs laid by May 6th. Most of the nests I have seen have been in wet places or near water, and almost all were in white ash trees, from thirty to fifty feet from the ground. Two nests were in elm trees and one in a telegraph pole by the roadside not more than ten feet from the ground. In this nest-hole the young were hatched by the 22nd of May. (*Rev. C. J. Young.*) Breeds in fair numbers in summer and was formerly our most common woodpecker in winter, but is now outnumbered by the downy. Not yet observed to use dead trees for nesting. This species drums on resonant limbs in spring, but not so commonly as the downy woodpecker. It is an exceedingly early breeder, excavating its dwelling-house in April, and indeed often laying the eggs in the same month, while large young are always to be found by May 24th. (*W. E. Saunders.*) Found breeding at Long Lake, Manitoba, June 16th, 1894. On May 31st, 1901, found a nest containing four eggs at Yorktown, Sask. The eggs were laid in a hole in a tree about ten feet from the ground. I found another nest containing six eggs in a hole in a poplar about 15 feet from the ground. I am not aware that the nest and eggs of this species have been previously described so will give the measurement of the egg. The average size of 18 specimens before me is .98 x .70. (*W. Raine.*)

393c. **Harris Woodpecker.**

Dryobates villosus harrisii (Aud.) Ridgw. 1885.

One shot in lat. 49°, August 24th, 1874. Found only in the Rocky mountains. (*Coues.*) Vancouver island, Sumas and Osoyoos; winters on Vancouver island. (*Lord.*) Abundant everywhere throughout the coast region; breeds. (*Streator.*) West of the Coast range,

especially coastwise, a common resident. (*Fannin.*) Common resident at Chilliwack, B.C. (*Brooks.*) Taken at Agassiz and Hastings, B.C., in 1889; common at Chilliwack and Huntingdon; a few seen at McGuire's on the Chilliwack river, B.C.; saw one at Douglas, B.C.; a common resident throughout Vancouver island. (*Spreadborough.*) A few seen in the scattering timber in the vicinity of Sitka, Alaska, where they doubtless breed. (*Grinnell.*) Three of nine specimens have unspotted wing coverts, the rest are spotted in varying degrees, but less so than the darkest examples of *villosus*. (*Rhoads.*)

393*d*. **Cabanis Woodpecker.**

Dryobates villosus hyloscopus (Cab.) Brewst. 1888.

Under this form we place a few skins examined by Mr. F. Chapman and labelled "approaching *hyloscopus*." They come exactly between the western and eastern forms and include the whole Rocky mountain region.

This form was common at Canmore and Banff in the Rocky mountains in the summer of 1891; very common at Revelstoke, B.C., in burnt woods in April, 1890; not uncommon at Kamloops, B.C., in June, 1889. Mr. Spreadborough reports seeing a hairy woodpecker at Trail, Cascade and Waneta, B.C., on the 49th parallel in the summer of 1902. It was doubtless this form. (*Macoun.*) Common at Elko, B.C.; rarer at Midway and Sidley and rather common at Penticton, B.C. (*Spreadborough.*) Taken at Okanagan, B.C., by Mr. Brooks. (*Kermode.*) Breeding at 150-mile House, Cariboo district, B.C. (*Brooks.*) Near Little Salmon river, Yukon river, Yukon. (*Bishop.*)

Breeding Notes.—A pair had a nest in a larch stub about twenty feet from the ground at Elko, B.C., May 7th, 1904, and a pair was seen making a nest in a poplar about ten feet from the ground at Midway, B.C., April 15th, 1905.

393*f*. **Queen Charlotte Woodpecker.**

Dryobates villosus picoideus (Osgood). A. O. U. Comm. 1902.

Queen Charlotte islands, British Columbia. (*Osgood.*)

394. Downy Woodpecker.

Dryobates pubescens medianus (SWAINS.) BREWSTER. 1897.

Very common in Newfoundland and a resident. (*Reeks.*) Fairly common along the Humber river, Newfoundland. (*L. H. Porter.*) Common and resident in southern portions of Labrador; probably does not range north of lat. 56°. (*Packard.*) Only one specimen observed on Moose river, June 6th, 1896; none in Labrador. Observed in 1904 from Missinabi river to the mouth of Hannah river, James bay. (*Spreadborough.*) A specimen collected by Haydon at Moose Factory is in the U. S. National Museum. (*Preble.*) Seen during the winter at Lake Mistassini, northern Quebec. (*J. M. Macoun.*)

Rather common resident in Nova Scotia. (*Downs.*) Common throughout the year at Wolfville, N.S. (*H.F. Tufts.*) Common resident at Sydney, Cape Breton island, N.S. (*C. R. Harte.*) On trees in woods, Brackley Point, Prince Edward Island, 1888; also in woods, Cape Breton Island, 1898. (*Macoun.*) A common resident, Cumberland county, N.S., winter of 1897-98. (*C. H. Morrell.*) Abundant throughout the entire year in New Brunswick. (*Chamberlain.*) A tolerably common permanent resident, breeds, York county, N.B. (*W. H. Moore.*) Very rare in the Restigouche valley, N.B. (*Brittain & Cox.*) One seen on Grindstone island, Magdalen islands. (*Bishop.*) One pair was seen nesting at Fox bay, Anticosti, Que., in July. (*Brewster.*) Taken at Beauport; common resident in Quebec. (*Dionne.*) A common and permanent resident in the Montreal district; breeds in Mount Royal park; scarce during the winter months but plentiful in the spring of the year. (*Wintle.*)

An abundant resident in the Ottawa district, but more common in spring and summer. (*Ottawa Naturalist*, Vol. V.) A common resident in Ontario, but more common in spring and fall migrations. (*McIlwraith.*) This species breeds near Toronto but is much more common in the Muskoka district. (*J. H. Fleming.*) I found this species abundant at Whitney, Parry Sound railway, during November and December, 1898. (*J. Hughes-Samuel.*) Breeding but not common in Algonquin park, Ont., July, 1900. (*Spreadborough.*) Common in spring, summer and fall and is our

most common winter species. I once found a male of this species diligently digging a hole in a small stump in October, presumably for winter quarters. (*W. E. Saunders.*)

A tolerably common resident in the wooded sections of Manitoba, but is scarce in the more southern portion. (*E. T. Seton.*) Resident at Aweme, Man. In winter it is usually found in spruce woods. (*Criddle.*) An abundant resident species in Manitoba and observed west along the G. T. P. Ry. to Edmonton, Alta. (*Atkinson.*) Only a few specimens were seen at Indian Head, Sask., in 1892; one specimen was taken at Medicine Hat, Sask., April 12th, 1894. Observed one, April 22nd, 1897, at Edmonton, Alta.; saw another on the 29th; apparently quite rare; one seen at Crow Nest pass in July; a pair seen at Peace River Landing, Atha., in 1903, and another pair at Fernie, B.C. in 1904. Specimens were taken at Banff, Alta., in August, 1891. (*Spreadborough.*)

Breeding Notes.—I have occasionally seen this bird in the winter, but not so often as the hairy. It breeds later; most of the nests I have seen contained fresh eggs the last week of May, although once I found young birds at that date. (*Rev. C. J. Young.*) On May 21st, 1900, I found this bird nesting abundantly in the woods north of Waterloo, Ont. Almost every decayed stub or broken tree contained a nest of five to six eggs. (*W. Raine.*) Nests in trees near Ottawa, Ont. Nest always in a hole in a tree or stump, composed of chips and dust. Eggs four to five, pure white. (*G. R. White.*) All the nests found by me near Aweme, Man., were in aspen woods and trees. Lays six or seven eggs of a glossy white colour. (*Criddle.*) The entrance to the cavity in which the downy woodpecker places its nest has a diameter of one inch and a quarter. The cavity itself is six inches deep and the nest is made of chips. The bird chooses either a stump or a tree and the elevation from the ground is between one foot and twenty-five feet. I have found in May and June, four, five, six and once seven eggs in the same nest. (*A. L. Garneau.*)

394*a*. **Gairdner Woodpecker.**

Dryobates pubescens gairdnerii (Aud.) Ridgw. 1885.

General west of Coast range. (*Lord.*) Rather common throughout the coast region; breeds. (*Streator.*) A common resident

west of the Coast range; winters on Vancouver island. (*Fannin.*) Common resident at Chilliwack, B.C. (*Brooks.*) At Revelstoke this species was found with the Batchelder woodpecker, but further down the Columbia river at Robson and Deer Park, the specimens taken were all of this form. It was next found at Agassiz in the Fraser River valley, and at Chilliwack and Huntingdon, B.C., in 1901. Saw one pair at Douglas, B.C., in 1906. On Vancouver island it is resident and very abundant. (*Spreadborough.*)

394*b*. Batchelder Woodpecker.

Dryobates pubescens homorous (Cab.) Ridgw. 1896.

Very common throughout the interior of British Columbia along the C.P.Ry. (*Streator.*) Common around Lake Okanagan, B.C., in winter. Scarce in the Cariboo district, B.C. Not observed in the winter months, 1901. (*Brooks.*) We have not found this species further east than the Columbia river at Robson, B.C., where a specimen was taken, and another at Revelstoke in April, 1891. It was common at Kamloops and Spence Bridge, B.C., in June, 1889. (*Macoun.*) Observed a pair at Fernie, B.C., May, 1904; six at Penticton, B.C., April, 1903, and a pair at Midway, April 8th, 1905. (*Spreadborough.*)

394*d*. Nelson Downy Woodpecker.

Dryobates pubescens nelsoni Oberholser. 1895.

We place here without remark all references to the downy woodpecker of the northern parts of Canada and Alaska. We have no specimens.

This species is a constant inhabitant of the Northwest Territories up to Lat. 58°. It seeks its food principally on the maple, elm and ash, and north of Lat. 54°, where these trees do not grow, on the aspen and birch. (*Richardson.*) North to Fort Laird, Lat. 61°; not rare. (*Ross.*) A few specimens were observed on the Athabaska river, Atha. Rare between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) Throughout Alaska where woodland or a growth of bushes and small trees occurs the present bird is certain to be found, and is a resident, winter and summer. (*Nelson.*) This species ranges throughout the wooded districts of Alaska. Along the Yukon river it is very common. (*Turner.*)

An adult male taken at Sheep camp, Kenai peninsula, Alaska. (*Anderson.*) This was the most numerous species of the family observed in the Kenai mountains, its favourite haunt being the spruce and cottonwood thickets, where it was usually found in pairs. (*Figgins.*) Two specimens were collected by Figgins which Mr. Chapman says are indistinguishable from the average eastern specimens of *D. pubescens medianus.*

All our skins of *D. pubescens* and its sub-species have been examined by Mr. F. Chapman of New York Museum of Natural History.

CLXVIII. **XENOPICUS** BAIRD. 1858.

399. White-headed Woodpecker.

Xenopicus albolarvatus (CASS.) MALHERBE. 1862.

A rare and beautiful species; obtained only east of the Coast range. (*Lord.*) Coast range; Similkameen valley, collected by R. V. Griffin. (*Fannin.*) I have heard of this species but never came across it at Lake Okanagan, B.C. (*Brooks.*)

CLXIX. **PICOIDES** LACÉPÈDE. 1801.

400. Arctic Three-toed Woodpecker.

Picoides arcticus (SWAINS.) GRAY. 1845.

Recorded from the Hudson bay region by several collectors. (*Preble.*) Tolerably common in Newfoundland throughout the year. (*Reeks.*) Common along the Humber river, Newfoundland. (*L. H. Porter.*) Common and resident throughout the wooded portions of Labrador. (*Packard.*) Only one specimen seen on Moose river; none in Labrador in 1896. (*Spreadborough.*) Not a common resident in Nova Scotia. Prefers burnt forest. (*Downs.*) Resident, not uncommon in heavy timber in Nova Scotia. (*H. F. Tufts.*) One observed at Baddeck, Cape Breton island, June, 1890. (*F. A. Allen.*) Resides throughout the year but is uncommon in New Brunswick. (*Chamberlain.*) Rare in the Restigouche valley, N.B. (*Brittain & Cox.*) A common resident in York county, N.B. (*W. H. Moore.*) A single specimen was seen near Gaspé, and another heard at the mouth of the Mingan river, Que. (*Brewster.*) Taken

at Beauport; resident in Quebec. (*Dionne.*) A transient and scarce visitant; a few specimens taken around Montreal in October and November; common near Casselman, Ont., about 90 miles west of Montreal in October. (*Wintle.*)

Possible resident in the Laurentian hills north of the city of Ottawa, as it is seen around the city in September and October. (*Ottawa Naturalist*, Vol. V.) This is truly a northern bird, seldom even in winter coming as far south as the southern boundary of Ontario; it is resident and quite common in Muskoka. (*McIlwraith.*) This woodpecker sometimes comes as far south as Toronto. I have several specimens taken here in winter. In the district of Parry Sound it is a common resident and one of the most interesting birds there, both from its nesting habits and from its utter unconsciousness when approached. (*J. H. Fleming.*) Common in Algonquin park in the summer of 1900. A pair nested in a telegraph pole quite near Câche lake station of the Parry Sound railway. (*Spreadborough.*) Feeding on dead maples at Kiladar, Addington county, December, 1894; very plentiful at Whitney on the Parry Sound railway during the fall of 1898, and feeding principally on the yellow birch; I have seen an occasional specimen taken near Toronto. (*J. Hughes-Samuel.*) A few only have been taken in the London district. (*W. E. Saunders.*)

A common resident in the woods in Manitoba and northward. (*E. T. Seton.*) Rather rare at Aweme, Man. and is becoming more so, owing to the destruction of timber; probably breeds. (*Criddle.*) A not uncommon breeding resident in the spruce districts of Manitoba but seldom noted away from these woods. (*Atkinson.*) Not uncommon in the woods at Banff, Rocky mountains; observed several in the foothills southwest of Calgary in July, 1897, and in the Crow Nest pass, Alta.; common and breeding at Revelstoke, B.C., in 1890; common at Elko, B.C. in coniferous woods, May, 1904; saw several at Midway, B.C. in burnt woods, April, 1905. (*Spreadborough.*) This species is rather rare in the Northwest Territories and was only observed on the eastern slope of the Rocky mountains, where the common species was also procured. (*Richardson.*) North to Fort Simpson; rare. (*Ross.*) It is believed that this species breeds and also winters in the Arctic regions. One nest was found in May, 1863, that was believed to belong to this species.

(*Macfarlane.*) One specimen at Athabasca Landing, Alta., May 25th, 1888. Common on Methye Portage; not rare between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) Obtained only east of the Coast range. (*Lord.*) Common at Ducks, near Kamloops, B.C., in August, when they are on their southward migration. (*Streator.*) East of the Coast range; resident. (*Fannin.*) Common in suitable localities around Lake Okanagan, B.C., in winter; scarce throughout the winter in the Cariboo district, B.C.; the greater number seemed to emigrate southwards. This should be the western form lately described by Mr. Bangs, but specimens taken seemed to correspond in measurement with the typical form. (*Brooks.*) Very little appears to be known concerning the movements and habitat of this bird, especially in the north. I secured a single specimen which was brought to me from Fort Reliance on the upper Yukon. (*Nelson.*) An adult male was taken on the Malchatna river, Alaska by McKay in 1883. (*Osgood.*) A young bird of this species was taken on the bank of Six-mile river, Yukon. (*Bishop.*)

Breeding Notes.—Frequently seen in the fall in the county of Renfrew, Ont., more early in the county of Leeds. In the latter county I have once seen this bird in a thick wood of pine and hemlock as late as the middle of May, and as the locality was rough and favourable to its habits, it may possibly have bred there, though I could not locate a nest. This was near Landon bay, River St. Lawrence. (*Rev. C. J. Young.*) This woodpecker has a habit of sometimes nesting in colonies. I saw the nests of such a colony near Sand lake in 1896; there were six or seven nests, each cut into the trunk of a living cedar, just below the first branch, and usually eight or ten feet from the ground. The cedars were in a dense forest overlooking a small stream that empties into Sand lake. Four eggs seem to be the full set. The young are hatched by the 1st of June. (*J. H. Fleming.*) A common summer resident at Lake St. Joseph, Muskoka, Ont. From there I received a set of six eggs taken May 30th, 1899. Nest, a hole in a decayed pine tree fifteen feet from the ground. (*W. Raine.*)

401. American Three-toed Woodpecker.

Picoides americanus Brehm. 1831.

Common and resident throughout the wooded portion of Labrador. (*Packard.*) Scarcely so common as the preceding species in New-

foundland. (*Reeks.*) Taken at Fort Churchill, Hudson bay. (*Clarke.*)

Through the kindness of Messrs. Edward and Robert Christie I visited their logging camp on March 16th. The camp is four miles in the spruce growth, about equal distance from River Hebert and Two Rivers, N.S. It was a favourite locality for many birds. While there I heard woodpeckers drumming and soon located three of this species. After drumming for some time they came down to the dry tops of spruces of previous cuttings which were everywhere, and worked about over them. They were very fearless and I stood within two yards of each in turn and watched them for some time. Two were males with golden crown; the third was evidently a female. These three were the only ones seen. (*C. H. Morrell.*) An occasional winter visitor in New Brunswick near St. John. (*Chamberlain.*) Have seen this species in northern New Brunswick. (*W. H. Moore.*) Taken at Beauport; a scarce resident in Quebec. (*Dionne.*) An old female and a brood of young seen in the woods at Ellis bay, Anticosti, Que. (*Brewster.*) A transient visitant in the Montreal district, but rare. It occurs in October and November. (*Wintle.*)

This species is rarer than the preceding but is seen in the vicinity of Ottawa every autumn and doubtless breeds to the north of the city. (*Ottawa Naturalist*, Vol. V.) This also is a northern species but is seldom taken in southern Ontario in the autumn though commoner northward. (*McIlwraith.*) Rare in the Parry Sound and Muskoka districts, only appearing in winter. Mr. Handy sent me a pair taken at Emsdale. One specimen of this species was shot on Well hill near Toronto, November 16th, 1901. It was seen in company with another, probably its mate. (*J. H. Fleming.*) I am not sure we have more than a single record of this species west of Toronto. I have a record about 25 years old of one taken in the township of Caradoc and identified by Mr. J. A. Morden. (*W. E. Saunders.*) While at Whitney during November and December, 1898, I looked very carefully for this species but only succeeded in taking one, which was feeding on a yellow birch in company with a party of *P. arcticus*. I obtained a second specimen of this species from the same place a few weeks later. (*J. Hughes-Samuel.*)

Very rare in central Manitoba but probably general in the north and east. (*E. T. Seton.*) Rare at Aweme, Man. Usually a few

noted in late autumn. (*Criddle.*) This bird exists in all the forests of spruce fir lying between Lake Superior and the Arctic sea. It is the most common woodpecker north of Great Slave lake. (*Richardson.*) A few specimens between Athabasca Landing, Alta., and Lesser Slave river. Rare between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) A pair was breeding on the Athabasca river and a pair on Slave river, 1903. (*Spreadborough.*) North of Fort Good Hope on the Mackenzie river. (*Ross.*) Much more common than the preceding species in Cariboo, B.C., in the winter of 1900; breeds throughout the region. (*Brooks.*) Common and breeding in burnt woods at Banff, Rocky mountains, alt. 5,500 feet, June, 1891. (*Spreadborough.*) This is probably *P. fasciatus*, as we have specimens of that species from Banff collected by Mr. Dippie in 1895.

401*a*. **Alaskan Three-toed Woodpecker.**

Picoides americanus fasciatus BAIRD. 1870.

Taken by Mr. G. F. Dippie in the foot-hills south of Calgary, Alta. As this record extends the range of this bird eastward it is probable that most, if not all, the Rocky mountain references should go here.

A common resident in the spruce zone on the Coast range; also taken in Washington as far south as Mount Baker. (*Brooks.*) Duncan's, Vancouver island, by Dr. Hasell; east and west of Coast range, B.C. (*Fannin.*) Seen near Cascade, B.C., on the 49th parallel and taken on Sophie mountain at an altitude of 4,000 feet, July 12th, 1902; saw one on a mountain at the head of Chilliwack lake, B.C., June 26th, 1906. (*Spreadborough.*) Collected at Haines Mission and Glacier, Lynn canal. In the Yukon valley at Six-mile river; three specimens near Miles canyon; two on the Lewes river, Yukon district, and two at Circle City, Alaska. (*Bishop.*) In the country from Fort Simpson (on the Mackenzie river) north and west, including the lower Mackenzie and Anderson rivers, and all of northern Alaska, occurs this well marked race, which is characterized by the extent and amount of the white markings upon the dorsal surface, mainly in the form of barring. (*Nelson.*) Specimens of this form were obtained from Nulato and Fort Yukon on the Yukon river. The bird is a resident of the wooded districts and common in some localities. (*Turner.*) This, the only species of woodpecker detected by me in the Kowak region, was resident throughout the

year. It could scarcely be called common. (*Grinnell.*) Apparently common at Cook inlet, Alaska, 1900. Quite rare at the base of the Alaskan peninsula, only two seen in 1902. (*Osgood.*) One specimen collected at Homer, Kenai peninsula, Alaska, was the only one observed. It is undoubtedly rare as the natives had never seen the species before. (*Figgins.*) One taken at Haines and one at Glacier, Alaska; noted or taken at several places in the Yukon valley. (*Bishop.*)

Breeding Notes.—According to Oliver Davis' "Nests and Eggs of N. A. Birds," nothing has been published regarding the nest and eggs of this species. It therefore gives me pleasure to make the following record of a set in my collection of five eggs which were taken with the parent bird on May 29th, 1897, at Peel river that runs into the mouth of the Mackenzie river. Nest, a hole in a coniferous tree about ten feet from the ground. The eggs average ·90 x ·65. The Rev. I. O. Stringer secured the parent and found its crop filled with seeds and worms. (*W. Raine.*)

401*b*. **Alpine Three-toed Woodpecker.**

Picoides americanus dorsalis Baird. 1870.

A specimen of what I consider to be this species was procured at Fort Norman on the Mackenzie river. (*Ross.*) Mountains east of Coast range; north to Cassiar. (*Fannin.*) A specimen of this form was taken at Huntingdon in the Fraser river valley on the 49th parallel, on October 4th, 1901; one observed at Fernie, B.C., April 25th, 1904. (*Spreadborough.*) What was likely this species was observed on the shore of Shuswap lake, above Kamloops, B.C., in June, 1889. The bird had a nest in a dead tree, and was a three-toed woodpecker with a white back. A specimen was not obtained. (*Macoun.*) This form is known to range from Fort Kenai and the southeastern Alaskan coast and Fort Simpson on the Mackenzie river (lat. 62°) south to Oregon and Arizona. In well plumaged summer birds a longitudinal white band begins with the nuchal collar and extends down the back to the rump, with no trace, or at most a very slight one, of transverse barring. (*Nelson.*) This form is abundant in the interior wherever there are wooded districts. It rarely visits the vicinity of St. Michael. (*Turner.*)

CLXIX. SPHYRAPICUS Baird. 1858.

402. Yellow-bellied Sapsucker.

Sphyrapicus varius (Linn.) Baird. 1858.

One found dead near Julianshaab, July, 1845; another sent from Greenland about 1858. (*Arct. Man.*) Common along Moose river to Moose Factory; none seen further north in Labrador in 1896. (*Spreadborough.*) Probably occurs in Newfoundland. (*Reeks.*) Fort Churchill, Hudson bay. (*Clarke.*) Abundant summer resident in Nova Scotia. (*Downs*; *Tufts.*) A common summer resident at Sydney, Cape Breton island, N.S.; first seen May 7th; eggs far advanced by June 15th. (*C. R. Harte.*) Seen at Hunter river, Prince Edward island, July, 1888. Not rare at Margaree, Cape Breton island, July, 1898. (*Macoun.*) An occasional summer resident at St. John, N.B.; breeds. (*Chamberlain.*) Rare in the Restigouche valley, N.B. (*Brittain & Cox.*) A tolerably common summer resident; breeds in York county, N.B. (*W. H. Moore.*) Taken at Beauport, and a common summer resident in Quebec. (*Dionne.*) Summer resident at Montreal; more plentiful during the spring migrations; breeds sparsely on the island of Montreal. (*Wintle.*)

Common summer resident at Ottawa, Ont.; breeds. Commoner in migrations than at other times. (*Ottawa Naturalist,* Vol. V.) A common breeding species, perhaps the commonest of the woodpeckers in the summer in the Muskoka and Parry Sound districts; abundant migrant at Toronto, Ont.; a rare summer resident, breeds. (*J. H. Fleming.*) A summer resident about London, but not common except in migrations. (*W. E. Saunders.*) Abundant in Algonquin park, Ont., breeding in holes in cedar trees about 12 feet from the ground. (*Macoun.*)

A common summer resident of the wooded section of Manitoba. (*E. T. Seton.*) Regular migrant in Manitoba but not a common breeder. (*Atkinson*; *Criddle.*) During the spring of 1892 only four specimens of this bird were seen at Indian Head, Sask.; two specimens seen at Medicine Hat, Sask., May, 1894; first saw four, May 3rd at Edmonton, Alta., common the next day; common summer resident from Edmonton, lat. 53° 30′ to Crow Nest Pass lat. 50°; common from the mouth of Lesser Slave river to Peace

River Landing, Atha. (*Spreadborough.*) Common from Athabasca Landing, where it is very abundant and frequently met with up the Athabasca river to the mouth of Lesser Slave river, common on the Clearwater river, lat. 56° 30′, and on Methye Portage, common between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) This is the only woodpecker that visits the Northwest Territories in flocks. It made its first appearance in 1827, on the plains of the Saskatchewan on the 14th May in considerable flocks. In the breeding season it is much more retiring and ranges as far north as lat. 61°. (*Richardson.*) North to Fort Simpson on the Mackenzie river; common. (*Ross.*)

Breeding Notes.—I notice that this bird is very common in spring along the St. Lawrence. It breeds plentifully in the counties of Leeds, Lanark and Renfrew, in all of which I have found its nests. The locality chosen varies very much; it is partial to an ash swamp, like the hairy woodpecker, but it is also fond of poplar trees, commencing its nest-hole about the beginning of May. I have found fresh eggs on May 19th. They vary much in size and shape and a complete set consists of five or six. I have noticed a nest several years in succession in a poplar at the foot of Grenadier island, St. Lawrence river, and have observed that the nest hole is usually from 25 to 40 feet from the ground, though on one occasion I found it in a dead stub, standing in water, not more than three feet above the surface. (*Rev. C. J. Young.*) I found a nest of young birds of this species, June 21st, 1887, on St. Bruno mountain, in a hole drilled in a live oak tree, only about six feet high in the trunk of the tree above the ground, and another nest of its young, July 1st, 1885, at Calumet, Que., 58 miles west of Montreal. This nest was in a small hole drilled in the trunk of a live elm tree, and about thirty feet high from the base. (*Wintle.*).

On June 20th, 1883, at the spruce bush, I found the nest of a sapsucker. It was in a new hole in a green poplar tree, about 30 feet from the ground. It contained five newly hatched young, and in the chamber with them were some of the shells, out of which I reconstructed two eggs. The male, length 8½, stomach full of ants, the female, length 8⅜, stomach full of ants, her bill also was full of black ants, intended probably as food for the young ones; excessively fat; no red feathers at all except three or four scattered on the

front of the crown, which was black. The eggs were each $\frac{13}{16}$ by $\frac{5}{8}$ and pure white. On July 3rd, in spruce bush, found the nest of a sapsucker. It was about 20 feet from the ground in a poplar, and facing the southeast. Just over the hole was a large limb, which would doubtless be of some service as a shelter from the rain. I shot the female; her crown was black, with but a very few red feathers in the front, and some of these were tipped with yellow. The gizzard was full of wood ants, *Formica rufa*. (*E. T. Seton.*) Excavates its nest-hole usually in living trees; one that I took was in an ironwood and there were nesting-holes of two or three previous years in the same tree which had died the previous year. (*W. E. Saunders.*) I collected a set of five eggs from a hole in a poplar about twelve feet from the ground, at Long lake, Manitoba, June 16th, 1894. (*W. Raine.*) Always nests in a hole in a tree at Ottawa. Nest made of chips and dust. Eggs, four to six, pure white. (*G. R. White.*)

402*a*. **Red-naped Sapsucker.**

Sphyrapicus varius nuchalis BAIRD. 1858.

One specimen taken at Edmonton, Alta., 1897; in the summer of 1891 this species was taken at Banff, and in the preceding year it was found breeding in numbers in the Columbia valley, B.C. at Revelstoke, Deer Park and Robson. In the spring of 1902 it was seen at Trail near the 49th parallel. In June 1889 it was quite common at Kamloops, B.C., and a few were seen as far west as Spence Bridge; first seen at Fernie, B.C., in 1904, on April 22nd; common at Elko, May 5th; common and breeding at Penticton, B.C., April, 1903. (*Spreadborough.*) A common summer resident in the Cariboo district, B.C. (*Brooks.*) Osoyoos and valley of the Columbia. (*Lord.*) Found common everywhere in the interior; breeds. (*Streator.*) I found this bird very common east of the Coast range, especially along the Cariboo road. (*Fannin.*) Generally distributed and breeding throughout the interior of British Columbia; did not observe it on the coast. (*Rhoads.*)

403*a*. **Northern Red-breasted Sapsucker.**

Sphyrapicus ruber notkensis (SUCKOW) RICHMOND. 1902.

Vancouver island and Sumas. (*Lord.*) Ten specimens of this form were taken on Queen Charlotte islands, where it is common.

(*Osgood.*) Found only on the coast; rare. (*Streator.*) East and west of Coast range; not common. (*Fannin.*) Tolerably common summer resident at Chilliwack. (*Brooks.*) Not uncommon at Hastings and Agassiz, B.C., in 1889; rather common from McGuire's to the head of Chilliwack lake, B.C., in 1901; common about fourteen miles south of Hope, B.C., July 5th, 1905, and young were taken on the Skagit river; shot two at Douglas, B.C., April 24th, 1906, and others afterwards along the Chilliwack river, young hatched by June 7th. (*Spreadborough.*) Hartland took two males at Chilcat river, Alaska, April 12th. (*Nelson.*) Took an adult male at Skagway, Alaska, May 31st, 1899. (*Bishop.*)

404. **Williamson Sapsucker.**

Sphyrapicus thyroideus (CASS.) BAIRD. 1858.

Taken at Similkameen, B.C., by R. V. Griffin, June, 1882. (*Fannin.*) Common in all the heavy timber from Midway to Osoyoos lake, B.C., at an altitude of about 4,000 feet. (*Spreadborough.*)

CLXX. **CEOPHLŒUS** CABANIS. 1862.

405*a*. **Northern Pileated Woodpecker.**

Ceophlœus pileatus abieticola BANGS. 1898.

Rather rare in Newfoundland. (*Reeks.*) Tolerably common along Moose river to Moose Factory, James bay; none seen in Ungava farther north in 1896. (*Spreadborough.*) Recorded from Albany river, Nelson river and Moose Factory. (*Preble.*)

An uncommon resident in heavily timbered districts in Nova Scotia. (*Downs.*) One was taken at Wolfville, N.S., September, 1897; rarely seen in Nova Scotia. (*H. F. Tufts.*) Common in the interior of New Brunswick throughout the year. (*Chamberlain.*) A not uncommon permanent resident, and breeds in York county, N.B. (*W. H. Moore.*) Said to have been formerly common on Prince Edward island, but I saw none. Mr. Earle showed me a stuffed specimen. (*Dwight.*) Taken at Beauport; a resident in Quebec. (*Dionne.*) Accidental visitant at Montreal, but rare. The nearest place to Montreal where I have seen this large woodpecker was at Casselman, Ont., about 90 miles west of the city. (*Wintle.*)

This species is not uncommon in the hills north of Ottawa, and is known to breed. (*Ottawa Naturalist*, Vol. V.) Said to have been formerly resident at Toronto, Ont. Muskoka and Parry Sound districts seem to be the home of this species. The work done by the pileated woodpecker in cutting into dead trees is wonderful. A pair will work all winter at one tree cutting it to pieces. I have several times seen stubs that have been so cut up that they have broken down. The birds cut deep holes in the sides of the trees to get entrance into the soft centre when the cuts are continued and lengthened until little of its inside remains. (*J. H. Fleming.*) Found quite numerous at Whitney on the Parry Sound railway late in the fall of 1898. (*J. Hughes-Samuel.*) Not common in Algonquin park in summer; more plentiful in winter. One individual seen on Missinabi river, Ont., June 19th, 1904. (*Spreadborough.*) A rare resident in the neighbourhood of London, Ont. (*W. E. Saunders.*)

Rare resident in heavy timber, but becomes more abundant to the northward. According to Hutchins it has been taken in January at Gloucester House in lat. 50° 31′ N., long. 96° 03′ W., 387 miles up the Albany river. (*E. T. Seton.*) A fairly numerous breeder in the heavier spruce districts of the northern and eastern parts of Manitoba and about Lake Winnipegosis and the Saskatchewan river but not outside this timber. (*Atkinson.*) This great woodpecker is a resident all the year in the interior of the Northwest Territories, up to lat. 62° or 63°, rarely appearing near Hudson bay, but frequenting the gloomiest recesses of the forests that skirt the Rocky mountains. (*Richardson.*) North to Fort Liard, lat. 61°; rare. (*Ross.*) Rare on the Clearwater river, Atha., lat. 56° 40′. (*J. M. Macoun.*) Common east and west of the Coast range. (*Lord.*) Common in the coast region where it breeds; they are not very common on Vancouver island. (*Streator.*) Common; but more abundant on the coast. (*Fannin.*) Common resident at Chilliwack, B.C.; tolerably common around Lake Okanagan, B.C., in winter; scarce in the Cariboo district, B.C. (*Brooks.*) One seen between Lesser Slave lake and Peace River Landing, Atha.; a few were noted at Banff in 1891; seen at Revelstoke in April, 1890; at Deer Park, Lower Arrow lake, June 14th, 1890, and at Robson on the Columbia river, at an altitude of 4,200 feet, June 26th, 1890; and quite common between Trail and Cascade, on the 49th parallel, in 1902; saw several at Penticton in 1903, found it common at Elko

in 1904 and at Midway and Sidley in 1905; observed everywhere in the Chilliwack valley, B.C., and on the mountains there in 1901; common on Vancouver island and resident wherever I have been. (*Spreadborough.*) Found in comparative abundance everywhere in British Columbia. (*Rhoads.*)

Breeding Notes.—This bird is becoming quite rare. I have seen it in the counties of Frontenac, Lanark and Renfrew, Ont.; never during the past fifteen years in the county of Leeds or along the St. Lawrence. In the heavily timbered and rough sections of the former counties, as recently as ten years ago it was comparatively common, now (1901) it is seldom seen. It breeds early, commencing its nest-hole in April. In 1888 I saw a nest in a large basswood tree between Perth and Lanark, Ont., about thirty feet from the ground. I have also seen the nest in a maple near Bob lake, Frontenac county, this is about its southern breeding limit in Ontario at the present time. In 1903 I again found a nest in this county in a bass-wood stub fifty feet from the ground, which on May 15th contained three fresh eggs. (*Rev. C. J. Young.*) I have a set of six eggs that were collected at Lake Joseph, Muskoka, Ont., on June 2nd, 1899. Eggs laid in a hole in a decayed pine twenty feet from the base. (*W. Raine.*)

CLXXI. **MELANERPES** Swainson. 1831.

406. Red-headed Woodpecker.

Melanerpes erythrocephalus (Linn.) Swains. 1831.

Very rare in Nova Scotia. A mere straggler. (*Downs.*) Occasionally met with in New Brunswick. (*Chamberlain.*) Occasionally met with in Quebec. (*Dionne.*) Summer resident; scarce. Observed on the Island of Montreal May 24th, 1882, and June 24th, 1883. (*Wintle.*)

A rather scarce summer resident at Ottawa. (*Ottawa Naturalist,* Vol. V.) Common summer resident at Toronto, Ont., breeds; one winter record, January 28th, 1905. One of the species that is increasing with the settlement of the Muskoka and Parry Sound districts. Mr. Kay speaks of it as rare at Port Sydney in 1890, but increasing rapidly; in 1893 it was rare at Emsdale, but has become much commoner. (*J. H. Fleming.*) Fairly common in all

the western peninsula of Ontario. Abundant in many parts, but not so much so near London as formerly, the decrease beginning about 1878. It spends the winter here in considerable numbers if food conditions are favourable. (*W. E. Saunders.*)

A rare summer resident in Manitoba, but commoner eastward. (*E. T. Seton.*) Very rare at Aweme, Man., but breeds. (*Criddle.*) A species which is rapidly increasing in numbers in the heavier wooded districts of Manitoba having become quite a regular breeding species about Portage la Prairie along the Assiniboine river east. (*Atkinson.*) One seen by Mr. C. S. Day in timber at Skull creek, Sask., June 9th, 1905. (*A. C. Bent.*) In May, 1895, this species was seen at Old Wives creek, in eastern Saskatchewan; also at Wood Mountain Post, and observed breeding at "Stone Pile" on the White Mud river, Sask., in June, 1895; a pair was found breeding on the east end of the Cypress hills in June, 1894; the same year one was seen at Crane lake and another at Medicine Hat, Sask.; a pair seen at Pass creek, near Robson, Columbia river, B.C., June 25th, 1890. (*Macoun.*)

Breeding Notes.—A common summer resident in Ontario. Very plentiful along the St. Lawrence, on Wolfe island and elsewhere, becoming rarer northward in the county of Renfrew. It occasionally stays all winter. In the mild winter of 1890 I saw two several times in a sugar bush of large maples in the township of Escott, Leeds county, Ont.; also at the same sugar bush I noticed one in December, 1899. It is a late breeder, seldom having eggs before June, and making its nest-hole high up in the dead limb of a large tree. I have only once or twice seen the nest within ten feet of the ground. (*Rev. C. J. Young.*) Nest taken in woods near Ottawa. It was a hole in a tree and contained four pure white eggs laid on a bed of chips and dust. (*G. R. White.*) At Rice lake, Ont.; June 10th, 1902, I found this bird more plentiful than the common flicker, nesting in decayed tree stubs. (*W. Raine.*) Mr. G. A. Dunlop found a nest with eggs of this species at Lachine, and I came across it breeding in a hole of a dead tree along a fence, between two woods at Longue Pointe, May 24th, 1889. I shot the female bird at the time for a specimen. I have not met with this conspicuously coloured woodpecker in the autumn season, and therefore I infer it departs south as soon as its young are reared and able to migrate. (*Wintle.*) Is perhaps the latest of our wood-

peckers to breed, seldom laying before June. It lays five to seven eggs of very variable size and shape, at varying heights from the ground, ranging from ten to at least sixty feet. (*W. E. Saunders.*) In 1898 red-headed woodpeckers were numerous near Black Rapids, Ont. Their nests were all very high except two. The first contained younglets on the 4th July, and the other, two eggs with embryos on the 21st of the same month. On the 4th June, 1906, while going in that direction I found a nest twenty feet high in a dead branch of an ash tree. The entrance measured two inches in diameter, the depth of the cavity, eleven inches. The nest contained six eggs with embryos in them. (*A. L. Garneau.*)

CLXXII. **ASYNDESMUS** COUES. 1866.

408. Lewis Woodpecker.

Asyndesmus torquatus (WILS.) COUES. 1866.

Shot only in the open timbered lands in British Columbia east of the Coast range. (*Lord.*) Abundant in the interior; breeds. (*Streator.*) East and west of the Coast range; rare on Vancouver island; young taken at Victoria and Comox. (*Fannin.*) A tolerably common summer resident at Chilliwack, B.C. (*Brooks.*) While we were encamped on one of the head waters of the South Saskatchewan at the eastern base of the Rocky mountains a Lewis woodpecker flew overhead and was distinctly recognized by myself and Mr. Batty. (*Coues.*) One specimen seen at Canmore, east of Banff, in June, 1901; one seen near Elko, B.C., May 12th, 1904; one specimen shot at Revelstoke, B.C., May 5th, 1890; only three specimens seen during the month; rather common at Enderby, Sicamous, Kamloops and Spence bridge in 1889; abundant at Cascade, on the International Boundary, B.C., in the summer of 1902; one taken at Huck's, Chilliwack river, B.C., July, 1901; one seen at Douglas, May 6th, 1906, and one at Chilliwack, May 26th. (*Spreadborough.*) Only east of Coast range in B.C.; rare in some localities, in others abundant. (*Rhoads.*)

BREEDING NOTES.—Found a nest near Similkameen river, B.C., June 15th, 1905. It was in a hole in a live poplar tree about five feet from the ground and contained two fresh eggs. (*Spreadborough.*)

CLXXIII. **CENTURUS** SWAINSON. 1837.

409. Red-bellied Woodpecker.

Centurus carolinus (LINN.) BONAP. 1838.

A few pairs breed near London. I have found several nests, usually in the dead top of a living maple or beech tree, and from forty to seventy feet above the ground. They nest early in the year, and I find them excavating usually about April 20 to 30th. Hardly a year passes that I do not locate one or more breeding pairs. Until about 1885 they were very abundant in the counties west of London, Ont., but their numbers have greatly lessened of late. (*W. E. Saunders.*) Rare about Toronto; commoner in southwestern Ontario. (*J. H. Fleming.*) A female was taken in Toronto, Ont., May 19th, 1885. (*E. T. Seton.*) On July 27th, 1894, I took an immature specimen of this species at Twin Lakes, border of Lake township, northeast of Havelock. (*J. Hughes-Samuel.*) Accidental visitant in the Montreal district; rare. Mr. Kuetzing says this species occurs in the Eastern Townships, but I have not observed it near Montreal and will treat it as a straggler until more is known of it in this district. (*Wintle.*)

CLXXIV. **COLAPTES** SWAINSON. 1827.

412*a*. Northern Flicker.

Colaptes auratus luteus BANGS. 1898.

Herr Möschler has recorded the receipt of a specimen from Greenland in 1852. (*Arct. Man.*) An accidental straggler was procured from the mainland near Akapatok island, Hudson strait, in October, 1882. Reported to be a common summer visitor to Northwest river, Labrador. (*Packard.*) Observed all along the Moose river to Moose Factory, and a few as far north as Fort George in Labrador, June, 1896, and to Cockpenny point in 1904. (*Spreadborough.*) A summer visitor and tolerably common in Newfoundland. (*Reeks.*) One seen on the Humber river, Newfoundland, October, 1898. (*L. H. Porter.*) Fort Churchill, Hudson bay. (*Clarke.*) Not common at Lake Mistassini, northern Quebec, in 1885. (*J. M. Macoun.*) We found flickers rather common throughout the region between Lake Winnipeg and Hudson bay and saw several at Fort Churchill,

July 25th. (*Preble.*) Very common from Lake Winnipeg to Fort Churchill, Hudson bay. (*Dr. R. Bell.*) Quite common in Nova Scotia. (*Downs.*) Abundant summer resident in Nova Scotia, once observed in February. (*H. F. Tufts.*) In woods along Rustico bay, Prince Edward island, July, 1888; common on Cape Breton island, July, 1898. (*Macoun.*) One seen on Sable island, N.S., September 25th, 1900. (*J. Boutelier.*) An abundant summer resident in New Brunswick. (*Chamberlain.*) Common around fields, Restigouche valley, N. B. (*Brittain & Cox.*) Common summer resident and breeds in York county, N.B. (*W. H. Moore.*) Taken at Beauport and a common resident in Quebec. (*Dionne.*) A few were seen near Gaspé and one or two at Fox bay, Anticosti. (*Brewster.*) Common summer resident at Montreal. Breeds in Mount Royal park. (*Wintle.*) Common summer resident at Ottawa. Breeding in all woods. (*Ottawa Naturalist,* Vol. V.) Summer resident and breeding at Toronto, Ont.; abundant and breeding in the districts of Parry Sound and Muskoka. (*J. H. Fleming.*) Common all over western Ontario. A few spend the winter in favourable seasons. (*W. E. Saunders.*)

Not common in Algonquin park, Ont.; one pair breeding near Câche lake. (*Spreadborough.*) A very abundant summer resident in the wooded parts of Manitoba. (*E. T. Seton.*) Abundant summer resident at Aweme, Man., nesting in decayed trees. (*Criddle.*) Abundant breeding species throughout Manitoba and observed everywhere along the line of the Grand Trunk Pacific railway west to Edmonton, Alta. (*Atkinson.*) This is not a rare bird at Indian Head, Medicine Hat, and Cypress hills; it was found breeding in 1895 in company with the hybrid flicker in holes in *Acer Negundo* on May 30th and two fresh eggs taken from the nest; early in June it was found at Wood mountain, and towards the end of June on Sucker creek in the Cypress hills, Sask.; common and breeding at Banff and shot as far west as Revelstoke, B.C., May 14, 1890. First seen at Edmonton, Alta., on April 30th, 1897; it soon became common and commenced to breed. Common in the foothills southwest of Calgary. (*Spreadborough.*) Common from Athabasca Landing up the Athabasca to Lesser Slave river and down to Fort McMurray, lat. 56° 40′. Common up the Clearwater river and on Methye Portage. (*J. M. Macoun.*) This beautifully marked bird visits the Northwest Territories only in summer advancing as far north as

Great Slave lake, but resorting in the greatest numbers to the plains of the Saskatchewan. Instead of hiding itself in the depths of the forest it frequents the open downs, and employs itself in turning over the ant-hills in search of larvæ on which it preys. (*Richardson.*) North to Peel river, mouth of the Mackenzie; common. (*Ross.*) This bird is by no means scarce in the valley of the Anderson but we made no attempt to collect its eggs as they are not scarce. (*Macfarlane.*) This handsome woodpecker breeds from one side of the territory (Alaska) to the other wherever wooded country occurs, according to the Esquimos it extends even to Behring strait. (*Nelson.*) This species does not occur in the Yukon districts to my knowledge. A specimen was obtained from Fort Yukon, where it is not abundant. (*Turner.*) In the Yukon valley this is by far the most common woodpecker. We found it quite frequently from Log Cabin to Circle City. At Caribou Crossing, June 27th, 1899, Osgood secured a female and found her nest containing eight young and three eggs in a cavity three feet from the ground in a partly dead poplar. At Six-mile river another nest was found, and at Lower Lebarge another, all in the Yukon district. (*Bishop.*)

Breeding Notes.—In this region (Carberry) the flicker seems to prey principally on ants, taking them sometimes from the rotten stumps that are honeycombed with their galleries, but more often, I believe, from the mound-like ant-hills which are to be seen on the prairie in such numbers. His method of attack seems to be by first pecking a hole in the centre of the hill, and then as the ants come swarming out he despatches them till his appetite is satisfied. Afterwards he comes again and again to the hill till it is completely depopulated. (*E.T. Seton.*) I found a nest of this woodpecker, June 8th, 1882, at Bedford, Que., in the trunk of an old beech tree, containing two younglings, five eggs incubated and one egg quite fresh; also another nest in the decayed trunk of a beech tree in the woods below Hochelaga, June 3rd, 1883, containing four eggs, and in the same tree two eggs; May 21st, 1887, another nest, with one egg, in a hole in the dead limb of a tree on the spur of Mount Royal. The flicker's nest can often be discovered by the quantity of chips strewn over the ground under the tree, from the hole they have been excavating in it. (*Wintle.*) One of these birds has nested in a telegraph post in front of my house at Kew Beach, Toronto for the past five summers and has never yet succeeded in hatching its eggs on account

of its nest being robbed by boys. As many as forty eggs have been taken from this nest in one season; as fast as the eggs are taken the bird lays another lot and in spite of this persecution returns every spring to its old home. Higher up in the same telegraph post a pair of tree swallows nest annually and succeed in hatching out their brood as the hole is too small for the boys to get their hands into. (*W. Raine.*) Nests taken at Ottawa are in holes in stubs or broken trees. Eggs five to seven, pure white, laid on a bed of small chips and dust. (*G. R. White.*) First seen in 1892 at Indian Head, Sask., April 19th; after this they became common and were nesting by May 9th, one shot at this date had its stomach full of ants. First seen in 1894 at Medicine Hat, Sask., on April 12th. After that they became common and could scarcely be distinguished from the form I call the hybrid flicker; both forms were breeding. Later this species was found at Crane lake and very common in the timber at the east end of the Cypress hills. In May, 1895, it was found breeding with the hybrid form at Old Wives creek and the eggs of each taken. Both nests were in holes of *Acer Negundo.* It was also found at Wood mountain and along Frenchman river in the Cypress hills. Common and breeding at Banff, Rocky mountains, in 1891. Met with at Revelstoke in 1890 in company with hybrids and the red-shafted flicker. (*Macoun.*) A very common summer visitant. Found everywhere. It is plentiful in the Magdalen islands where its former nest-holes are sometimes occupied by the small owls that breed there. Once in the county of Renfrew I found a nest with nine eggs, but six or seven is the usual number. (*Rev. C. J. Young.*) Abundant from April to October. Usually the flicker's nest is situated quite a distance from the ground, as one of the bird's names —"high hole"—suggests. But last summer a nest was observed so low that the bottom was on a level with the ground outside the stump in which the nest was made. The nine eggs which this nest contained were also remarkable. One egg was no larger than a sparrow's and contained no yolk, while the other eight varied greatly in shape from spherical to extremely elongate. (*H. F. Tufts.*) The diameter of the entrance to this nest in trees or stumps is 2½ inches, but sometimes the bird chooses a natural cavity. I found a nest on the 20th of June, 1897, in a hole on a stump, and another on the 8th of July, 1906, in a hole two feet deep on an old fence post. The number of eggs laid is from five to eight and sometimes more. A set of ten eggs I took on the 3rd of June, comprised eight incubated

eggs and two fresh eggs. Another nest near had been robbed and broken and a flicker was beginning to excavate a new nest-cavity. (*A. L. Garneau.*)

413. Red-shafted Flicker.

Colaptes cafer collaris (VIGORS) NELSON. 1900.

A specimen of this species was killed to the westward of the Rocky mountains by Mr. Douglas. (*Richardson.*) The most abundant of the summer visitors on Vancouver island and in British Columbia. (*Lord.*) Five specimens taken at Ashcroft are of this form. (*Streator.*) East of the Coast range; common. (*Fannin.*) This species was common at Banff in the spring of 1891; breeding at Devil lake and seen eating ants above the timber line on Mount Aylmer, Aug. 6th, 1891; common at Revelstoke on the Columbia, and down that river to Deer Park and Robson; also common and breeding in Eagle pass, west of Revelstoke, B.C.; common on the International Boundary between Trail and Cascade, B.C., in the summer of 1902; common both at Fernie and Elko, B.C., in 1904, and abundant and breeding at Penticton, B.C., in April, 1903; not uncommon at Sicamous, Kamloops and Spence bridge, B.C., in May and June, 1889. (*Spreadborough.*) In the neighbourhood of 150-mile House, Cariboo district, both this species and *auratus* occur and interbreed. From one nest-hole I took seven nestlings which varied from typical *C. cafer collaris* to nearly typical *auratus*. (*Brooks.*) During Bischoff's visit to Sitka a number of these birds were taken there and the specimens are now in the National museum. It has not been taken since. (*Nelson.*)

413*a*. Northwestern Flicker.

Colaptes cafer saturatior (RIDGW.) A. O. U. CHECK-LIST, 1886.

Abundant on the coast of British Columbia. (*Streator.*) Abundant west of Coast range; a number winter in the neighbourhood of Victoria. (*Fannin.*) A common resident at Chilliwack. (*Brooks.*) Common at Douglas, Chilliwack and at Huntingdon, B.C.; observed a few on the mountains at Chilliwack lake, also a few along the Chilliwack river and in the hills, and at Burrard inlet; a resident throughout Vancouver island. Nests in holes in dead trees; nesting commenced April 24th, 1893. (*Spreadborough.*) Noted occasionally

about Sitka, Alaska, in the dense forest a mile or more back from the beach. (*Grinnell.*) While *cafer* seems to be exclusively an eastern species, *saturatior* cannot be said to confine itself to the coast; examples from local areas of great rainfall in the interior being indistinguishable from ordinary Vancouver island specimens. (*Rhoads.*)

Hybrid Flicker.

All the *Colaptes* of the Upper Missouri, Yellowstone and Milk rivers appear to be of the hybrid race in which there is every degree of departure from the characters of typical *auratus*. The change begins on the Middle Missouri, as low down, I think as Fort Randall, and certainly as low as old Fort Pierre. It is a point of interest that this mongrel style overruns into the Saskatchewan region; for of two specimens secured at the eastern base of the mountains, one had the red quills and ash throat of *mexicanus*, and the cheek-patch mixed with red, while the other was nearly pure *auratus*. (*Coues.*)

This form was found breeding in the same locality and under the same conditions with pure *auratus*, in holes in *Acer Negundo* on Walsh ranch, near the mouth of Old Wives creek, May 30th, 1895. The nest contained four eggs indistinguishable from those of the eastern species. Others were seen at Medicine Hat, Sask., in 1894 and a number shot. Specimens were taken at Sucker creek, west end of Cypress hills, July 1st, 1895; later in the season it was seen at Castellated Rocks in southwestern Saskatchewan, in the Milk river valley; on July 26th others were seen at Lee creek, near Cardston, Alta., and still later at Waterton lake, almost where Dr. Coues saw the species in 1874. Numerous specimens were taken at Revelstoke, B.C., in the spring of 1890. These varied from almost pure *auratus* to pure *cafer collaris*. Two specimens were shot having all the characters of *collaris*, but each had a crescentic patch of red on the nape of the neck.

Two of the so-called hybrid flickers have been taken at Toronto, Ont.; one is in the collection of Mr. Ernest Seton, the other is in the collection of Mr. Geo. E. Atkinson. (*J. H. Fleming.*) In the spring of 1897 I collected several specimens of flicker at Portage la Prairie that were clearly hybrids showing the markings of *C. cafer* very con-

spicuously. (*Atkinson.*) The flickers proved very interesting at the places we visited in eastern Alberta and western Saskatchewan. Both the yellow-shafted and red-shafted were found in typical plumage as well as in all the stages of hybridisation. Nearly pure-blooded birds of both species were found mated together and both were collected from the same brood of young. (*A. C. Bent.*)

Order MACROCHIRES. Goatsuckers, Swifts, &c.

Family XXXV. **CAPRIMULGIDÆ.** Goatsuckers.

CLXXV. **ANTROSTOMUS** Gould. 1838.

416. **Chuck-Will's-Widow.**

Antrostomus carolinensis (Gmel.) Gould. 1838.

I took a male of this species on May 19th, 1906 at Point Pelee, Essex county, Ont. The bird was flushed from the ground and lit in a red cedar, giving an excellent chance to observe it and I was fortunately able to take it. The bird was found about half a mile from the end of the point on the west side. The sexual organs were well developed. (*J. H. Fleming.*) A detailed account of the taking of a single specimen of this species near Pictou, N.S. is recorded by Harry Piers in *Proc. and Trans. of the N.S. Inst. of Sci.*, Vol. VIII., p. 405.

417. **Whip-poor-Will.**

Antrostomus vociferus (Wils.) Bonap. 1838.

Formerly common but now becoming rare in Nova Scotia. (*Downs.*) An occasional summer resident at St. John, N.B. (*Chamberlain.*) Not common at Scotch lake, York county, N.B. (*W. H. Moore.*) Rare summer visitor in Quebec. (*Dionne.*) Transient visitor at Montreal, scarce; this bird is said to be plentiful at St. Jerome, 33 miles north of Montreal. (*Wintle.*)

A common summer resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) Regular migrant at Toronto, Ont., rather rare summer resident; fairly common in Muskoka; I have not met with it in Parry Sound district. (*J. H. Fleming.*) Common from the Geor-

gian bay to Lake Erie in most retired localities. (*W. E. Saunders.*) North to Norway House, foot of Lake Winnipeg. (*Dr. R. Bell.*) A common summer resident in Manitoba, arriving early in May. (*E. T. Seton.*) Very common in thick woods at Manitoba House, Manitoba lake, and westward along Lake Winnipegosis, nesting in the poplar woods in June, 1881. During the day many specimens were seen lying at full length, and perfectly flat, lengthwise on the branches. (*Macoun.*) Has become common at Aweme, Man. in recent years, nesting in open woods. (*Criddle.*) An abundant breeder in all the wooded parts of Manitoba but not noted west of Fort Ellice. (*Atkinson.*) Not seen or heard anywhere on the prairie. (*Spreadborough.*)

Breeding Notes.—Common in central Ontario in rocky uneven ground, partially wooded. I noticed it in a plantation of small oaks near the canal, Wolfe island, opposite Kingston, but it is not common in level sections of the country. It arrives earlier in the spring than the nighthawk, and I have heard its "call" as early as the end of April, and as late as September. It is nowhere commoner than among the Thousand islands. On some of the larger of these it breeds, returning to the same vicinity year after year. On one island, among ferns, and second growth trees I came across the eggs three times. They are laid in pairs on the bare ground without a vestige of nest, generally among trees. I have found them on the 9th and 16th of June, but two years ago I saw two eggs that were said to have been found on the 8th May. This bird leaves Ontario nearly a month later than the nighthawk, at least many do. (*Rev. C. J. Young.*)

Fifteen years ago this bird could be heard any evening on the outskirts of Toronto, but of late years it has become scarce. I found a set of two beautiful eggs of this species at Rosedale, Toronto, May 24th, 1889. There was no nest and the eggs were laid on dead leaves on the ground in a wood. On the evening of June 18th, 1894, Mr. Menzies drove me from Woodlands, Manitoba, to Shoal lake, and we were astonished at the number of whip-poor-wills calling in the woods at the sides of the trail. (*W. Raine.*)

CLXXVI. **PHALÆNOPTILUS** RIDGWAY. 1880.

418. **Poor-Will.**

Phalænoptilus nuttallii (AUD.) RIDGW. 1880.

Only one pair of these birds was seen in two weeks stay at Kamloops, B.C., in June, 1889. One was shot in open day but no nest was discovered. The country was open, dry, and arid. (*Spreadborough.*) From Kamloops south through the Okanagan district of British Columbia. (*Fannin.*) A tolerably common summer resident throughout the southern portions of the semi-arid interior. (*Brooks.*)

CLXXVII. **CHORDEILES** SWAINSON. 1831.

420. **Nighthawk.**

Chordeiles viginianus (GMEL.) SWAINS. 1831.

One specimen found dead on Melville island. (*Arct. Man.*) Stearns records this bird from Natashquan; also obtained by Drexler in August, 1860, at Moose Factory, James bay. (*Packard.*) A summer migrant in Newfoundland. (*Reeks.*) Common in Nova Scotia. (*Downs; Tufts.*) Seen at Baddeck and Sydney, Cape Breton island, August, 1898; one seen in the marsh at Brackley point, Prince Edward island, 25th June, 1888. (*Macoun.*) A few were seen almost every day frequenting the open clearings or sailing high in the air while I was on Prince Edward island. (*Dwight.*) An abundant summer resident at St. John, N.B. (*Chamberlain.*) A common summer resident; breeds at Scotch Lake, York county, N.B. (*W. H. Moore.*) Not common in the Restigouche valley, N.B.; only seen in burnt districts near settlements. (*Brittain & Cox.*) Taken at Beauport; a common summer resident in Quebec. (*Dionne.*) Not rare; breeds at Lake Mistassini, northern Quebec. (*J. M. Macoun.*) A single specimen observed at Fort Churchill, Hudson bay. (*Clarke.*) York Factory, Hudson bay. (*Dr. R. Bell.*) One heard, June 27th, at Grand Entry island, one of the Magdalen islands; but none afterwards. (*Brewster.*) Common summer resident, breeds in Montreal upon the gravelled roofs of houses. (*Wintle.*) An abundant summer resident. Since the building of houses with gravelled roofs these birds have become

common in the city. They breed in security on many flat roofs. (*Ottawa Naturalist*, Vol. V.) Common summer resident in Muskoka and Parry Sound districts and at Toronto, Ont. (*J. H. Fleming.*) Not so common as formerly in the London, Ont. district. (*W. E. Saunders.*) Two observed in Algonquin park, June 18th. No others seen in three month's residence; abundant from Missinabi to Moose Factory in 1904. (*Spreadborough.*)

This species is quite common in Manitoba and breeds freely. (*E. T. Seton.*) Abundant during migration, formerly a common breeder at Aweme, Man. but it seems to be deserting the country and making its home in the cities, nesting on the flat roofs of houses. (*Criddle.*) An abundant breeding species everywhere in Manitoba and the west, breeding on the ground in the prairie country and on flat roofs in cities. (*Atkinson.*) An adult male was taken by Dr. Bishop at Maple Creek, Sask., on June 5th, 1906, which he called this form. (*A. C. Bent.*) Exceedingly abundant on pleasant evenings near our camp at Grand Rapids, Saskatchewan river. (*Nutting.*) Rather common at Norway House, Lake Winnipeg, and east to Knee lake, Keewatin. Recorded from Trout lake by Murray, from York Factory by Bell and Fort Churchill by Clarke. (*Preble.*) Few birds are better known in the Northwest Territories than this, which ranges in summer to the Arctic islands. It makes its appearance at Great Bear lake generally about the last of May, and was observed hatching on the Saskatchewan on the 8th June. (*Richardson.*) North to Lapierre House on the Mackenzie river; rather rare. (*Ross.*) A few straggling birds have been observed in the far north but I never came across its nest except on the Clearwater river near Fort McMurray in June, 1873. (*Macfarlane.*) Seen along the Athabaska river from the mouth of Lesser Slave river to the Clearwater river, lat. 56° 40′, also on Methye Portage and from Methye lake to Isle à la Crosse. (*J. M. Macoun.*) Common from Lesser Slave lake to the Peace river in 1903. (*Spreadborough.*) Vancouver island and throughout British Columbia. (*Lord.*) Abundant summer resident in the interior; breeds. (*Streator.*) East of Coast range; a summer resident. (*Fannin.*) Summer resident at Chilliwack; tolerably common. All the specimens taken belong to the typical form and not to *henryi*. (*Brooks.*) Abundant in all interior localities of British Columbia. (*Rhoads.*) From Caribou Crossing, lat. 60°,

B.C., to Tatchun river, lat. 62° 20′, near Rink rapids, Yukon river. The specimens were slightly darker than *virginianus* from the east. (*Bishop.*)

Breeding Notes.—A common summer resident, though it does not appear to be as common as it was fifteen years ago. It lays its two eggs, without any nest, on rocks, in a disused stone quarry, or even on land that has recently been burnt over. (*Rev. C. J. Young.*) All the nests taken at Ottawa, Ont., were on the ground or on the gravel on the flat roofs of houses in the city. Eggs, two, of a pale olive buff, thickly mottled and daubed with varied tints of darker gray slate or even blackish. (*G. R. White.*) On August 1st, 1883, while in the eastern sand-hills with Miller Christy, we found the two young of a nighthawk sitting on the bare ground in the open. They seemed about three days old. On the tips of their beaks were still the hard white points with which they are furnished to aid them in chipping the shell. The old shells were lying around the nest, as is the case with the *Poocætes*, and but for these I should have passed by the young ones, as they had squatted close to the ground and shut their eyes, for the blackness and brilliancy of these would almost certainly have betrayed them. I gently touched one of them, whereupon it crouched down more closely to the ground; but its companion, rising up, hissed with open beak and snapped savagely at my fingers. On being further teased they ran off, exactly in the manner of young ducks, with outstretched wings and with neck and body at an angle of 45 degrees. After running a few feet they stopped, squatted as before, and closed their eyes. This they repeated several times, but at best they only made little progress, and each time on being overtaken the bold one was always ready to fight. This proved to be a male; the sex of the other was not ascertained, but probably it was a female. At this age the middle claw is not pectinated. (*E. T. Seton.*) The eggs of the nighthawk (*Chordeiles virginianus*) were several times found on the bare ground among the sand-hills, on the north side of the Souris, near Plum creek, with no approach to a nest for the helpless young. The parent birds endeavoured to draw us away from their eggs, fluttered as if wounded a short distance from them, and uttering cries of distress. (*Hind.*) In *The Ottawa Naturalist*, Vol. XIX., pp. 56, 57 the Rev. G. Eifrig published a very complete account of the breeding of nighthawks on a flat roof in Ottawa.

420a. Western Nighthawk.

Chordeiles virginianus henryi (CASS.) COUES. 1872.

On June 7th, 1892, two were observed at Indian Head, Sask., and by the 10th they were common. I have seen them sitting on poplar trees by the shore of Deep lake, ten miles from Indian Head, in the day time; very abundant all summer; breed in the vicinity. First seen in 1894 at Medicine Hat, June 3rd; also at Wood mountain, June 10th, 1895; afterwards it was common and in large numbers at Frenchman river and Cypress hills, near Cypress lake; it is a common species in the prairie region and was seen along Milk river, St. Mary river and Lee creek at Cardston, Alta. This form was abundant on the International Boundary, between Trail and Cascade, B.C., in the summer of 1902. Rather rare and breeding at Banff, Rocky mountains; heard occasionally at Deer Park, Lower Arrow lake, B.C., in June, 1890. Breeding in numbers on the rocks 700 feet above the Columbia at Robson, B.C., and west of Pass creek; breeding on bare rocks without any sign of a nest. Eggs two. The bird often flies in the daytime. Common at Sicamous, Kamloops and Spence Bridge. Observed at Chilliwack, B.C., and up the river as far as Thurston's; a summer resident on Vancouver island; one seen on June 11th at Victoria, and first seen at Comox, June 15th; on August 18th, 1893, saw a flock of at least 200 at Sooke ; they appeared to be going southward. (*Spreadborough.*) I have found this bird nesting throughout Saskatchewan and Alberta, laying its two eggs on the ground in the poplar bluffs. (*W. Raine.*) A summer resident in British Columbia; breeds on the mainland and Vancouver island. (*Fannin.*) All specimens observed in the mountains are referred here.

Some of the above references should doubtless be transferred to *sennetti.*

420c. Sennett Nighthawk.

Chordeiles virginianus sennetti (COUES) BISHOP. 1896.

Treeless region of the Great Plains from the Saskatchewan southward to Texas. (*Sup. VIII. to the A. O. U. Check-list.*)

Our specimens have not been taken on the treeless plains and though some of the references under *C. virginianus* and *henryi*

probably refer to this form; our only specimen is one from Indian Head, Sask.

Most of the specimens taken by us in southwestern Saskatchewan were this form. None of the western form were taken and probably the bird taken June 5th and referred to *virginianus* was migrating. (*A. C. Bent.*)

FAMILY XXXVI. **MICROPODIDÆ**. SWIFTS.

CLXXVIII. **CYPSELOIDES** STREUBEL. 1848.

422. **Black Swift.**

Cypseloides niger borealis (KENNERLY) DREW. 1885.

Sumas, British Columbia. (*Lord.*) A migrant in British Columbia. (*Fannin.*) Abundant summer resident. (*Brooks.*) Observed a number at Chilliwack, B.C., June 2nd, 1902; seen at Agassiz, B.C., May 19th, 1889; in great numbers at Douglas, B.C.; not uncommon in the Skagit valley, B.C., saw four at an altitude of 6,000 feet, July 31st, 1905; first seen at Comox, Vancouver island, June 15th, 1893, also at Nanaimo; only seen for a few days during migration. (*Spreadborough.*)

First seen at Lulu island May 25th, and more seen on the 26th, migrating leisurely. Frequently seen in great flocks on the Thompson and over the lakes near Ashcroft. On the 7th of June, my notes report "2,000 hovering low about a small lake," the only chance I had to secure specimens. They remained there all that day, but were gone the next day. Occasional flocks appeared at Clinton, Lac la Hâche, Ashcroft and Kamloops until June 12th. They were again seen at Vernon, June 22nd. At no time did they appear singly or in detached pairs. (*Rhoads.*)

CLXXIX. **CHÆTURA** STEPHENS. 1825.

423. **Chimney Swift.**

Chætura pelagica (LINN.) STEPH. 1825.

One shot in 1863 near Sukkertop, Greenland. (*Arct. Man.*) Apparently rare in Newfoundland, at least at Cow Head. (*Reeks.*) An abundant summer resident in Nova Scotia. (*Downs; Tufts.*)

Baddeck and Margaree, Cape Breton island, July, 1898. Seen near Brackley point, Prince Edward island; not common, June 23rd, 1888. (*Macoun.*) One reached Sable island, N.S., during a northwest gale on September 30th, 1905, and another June 3rd 1906. (*J. Boutelier.*) Rather rare and not often seen on Prince Edward island. It usually nests in hollow trees. Not rare at Baddeck, Cape Breton island. (*Dwight.*) A common summer resident in New Brunswick. (*Chamberlain.*) A common summer resident and breeds at Scotch Lake, York county, N.B. (*W. H. Moore.*) Common in the Restigouche valley, N.B.; nesting in trees. (*Brittain and Cox.*) Common summer resident in Quebec. (*Dionne.*) Numerous about Grenville and throughout the valley of the Rouge, Argenteuil county, Que., 1856. (*D'Urban.*) Summer resident at Montreal; abundant; breeds in the city, attaching their nests against the inside walls of chimneys. (*Wintle.*)

An abundant summer resident, breeding in immense numbers in the great chimneys of the Parliament buildings. Early in May they begin to arrive and by the end of the month they congregate in thousands and late in the evening begin to descend in a constant spiral stream into a large chimney in the western block. In the first week of February, 1883, a chimney swift came down a chimney in the house of Dr. J. F. Whiteaves, Assistant Director of the Geological Survey. It was caught and examined by him and remained alive for several days. A similar instance is known to have occurred in Toronto. (*Ottawa Naturalist,* Vol. V.) Common summer resident at Toronto, Ont.; abundant in Muskoka and Parry Sound districts. (*J. H. Fleming.*) A common resident throughout western Ontario. (*W. E. Saunders.*) Common in Algonquin park, Ont., some nesting in a chimney at Câche lake and others in hollow trees; common at Missinabi, Ont., in June, 1904. (*Spreadborough.*) Nesting on the inside wall of an outbuilding near the railway station at Alymer, Ont. (*A. G. Kingston.*) Vol. V. of *The Ottawa Naturalist,* pp. 89-104, contains a very complete description of the Ottawa colony of chimney swifts by Mr. A. G. Kingston. The whole article should be read by those interested in this bird.

A tolerably common summer resident in Manitoba, but diminishing westward. (*E.T.Seton.*) A common breeding species throughout Manitoba and west to Edmonton, Alta., along the line of the G.T.P.

Ry. Undoubtedly this bird must in cases resort, as it did previous to settlement to caves and trees to nest as on several occasions it was noted about our camp at dusk many miles from settlement. (*Atkinson.*) Very rare at Aweme, Man. (*Criddle.*) Common at Pembina, lat. 49°, and traced thence westward only to the Mouse (Souris) river. (*Coues.*) A few seen at Indian Head, Sask., in June, 1892. Two individuals seen at Edmonton, Alta., May 17th, 1897. (*Spreadborough.*)

Breeding Notes.—Very common in summer, a few birds remaining until the end of September. It usually arrives from the 3rd to the 6th May. Its curious nest of sticks, glued together, is well known. This is often placed in a disused chimney against the woodwork of an empty house, and such like positions. (*Rev. C. J. Young.*) Nest composed of small twigs of nearly uniform size, which are interwoven into a neat semi-circular basket. Each twig is firmly fastened to its fellow by saliva secreted by the bird. Eggs five, pure white. (*G. R. White.*) The nest of this species is occasionally found against the inner walls of outhouses and more rarely in hollow trees in the woods, its former nesting place. (*W. E. Saunders.*)

The houses outside of the large towns at Cape Breton are generally poorly supplied with chimneys. In fact, brick chimneys are rarely seen, but small stovepipes are used. Chimney swifts, which are common, have therefore to adapt themselves, and I was told that it is usual for them to nest in barns and sheds. At French river close to the sea, I observed on August 22nd a swift flying in and out of a window in a small hay barn. Inside on the end wall opposite the window and close under the apex of the rafters the nest was fixed and it contained the half-grown young. The nest was a rather bulky affair, made of spruce twigs, and the glue-like substance with which the twigs were stuck together was smeared like varnish on the boards above and below the nest. Below the nest was a large pile of droppings, as if the place had been used for several years. This accumulation was added to from time to time by the young, who carefully disposed themselves so as to avoid soiling the nest. When the adult bird flew in with food, chirping loudly, there was a loud reply from the young. The old bird generally alighted on the wall below the nest, clinging in a vertical position, and later fluttered up to the edge of the nest where it fed the young.

The shrill twittering of the young was almost deafening in the small hay-loft. The next morning early I found both parents at the nest, one on the wall, the other sitting on the nest, spreading one wing at times, and brooding the young. (*Dr. C. W. Townsend.*)

424. Vaux Swift.

Chætura vauxii (Towns.) DeKay. 1844.

Only seen at Sumas, British Columbia. (*Lord.*) East and west of the coast range, but not to my knowledge occurring on Vancouver Island. (*Fannin.*) Summer resident at Chilliwack; common. (*Brooks.*) Seen above the station at Revelstoke, B.C., May 12th, 1890; rather common towards the end of May; common at Deer park, Lower Arrow lake, and at Pass creek, near Robson, Columbia river; seen at Kamloops and Sicamous and on Mount Queest, Gold range, B.C., at an altitude of 6,000 feet, always flying very high; common at Trail, near the international boundary, for a few days in the spring of 1902; common at Chilliwack and along that river to Chilliwack lake, B.C., June 1901; seen for the first time at Comox, Vancouver Island, June 16th, 1893; after this they became common; I believe they breed in the vicinity ; saw five at Princeton, B.C., June 19th, 1905, and found it to be common on the Skagit river; first seen at Douglas, B.C., May 12th, 1906; quite common a few days afterwards. (*Spreadborough.*) Arrived April 11th at Nisqually and May 13th at Goldstream, Vancouver island, where it was an abundant migrant, associating at times with *C. niger*. Seen at Lac la Hâche, B.C., July 1st. (*Rhoads.*)

Family XXXVII. TROCHILIDÆ. Hummingbirds.

CLXXX. TROCHILUS Linnæus. 1758.

428. Ruby-throated Hummingbird.

Trochilus colubris. Linn. 1758.

A single individual, a male, was seen within four feet of me July 17th, 1882, on the hill top (825 feet elevation) back of the station at Davis inlet; Audubon states that few were seen by him in Labrador. (*Packard.*) An abundant summer visitor in Nova Scotia; comes when the red maple is in bloom. (*Downs; Tufts.*) Rather

common at Baddeck and other parts of Cape Breton island, August, 1898. (*Macoun.*) Not observed but undoubtedly occurs on Prince Edward island. Mr. Earle showed me a stuffed specimen. (*Dwight.*) An occasional summer resident at St. John, N.B. (*Chamberlain.*) Summer resident but not common; breeds at Scotch Lake, York county, N.B. (*W. H. Moore.*) Taken at Beauport; a common summer resident in Quebec. (*Dionne.*) Seen from May 27th to August 12th, 1858, in Argenteuil county, Que. (*D'Urban.*) Summer resident at Montreal; common. Breeds in the city gardens and in Mount Royal park, but their nests are not often found on account of their diminutiveness. On their arrival in Montreal in spring the flowers of the wild gooseberry and lilac bushes are their favourite resorts and later on they frequent horse-chestnut blossoms, wild columbine and cultivated flowers. (*Wintle.*)

Common summer resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) Common summer resident at Toronto, Ont.; plentiful during migration in Muskoka and Parry Sound districts; at Emsdale, the males arrive soon after the 15th of May, the females a few days later; I think some go further north but a great many remain to breed. (*J. H. Fleming.*) Not common in Algonquin park, Ont., only three observed from May 25th to June 17th, 1900. (*Spreadborough.*) Common at Kew beach, Toronto. Several pairs visit my garden every summer and feed on the flowers of the nasturtiums and scarlet-runners. (*W. Raine.*) This species is a common summer resident around Winnipeg and westward in diminishing numbers. Macoun took it at the head of Lake Winnipegosis, August 16th, 1881. (*E. T. Seton.*) Tolerably common at Aweme, Man., possibly breeding. (*Criddle.*) Quite a common breeder throughout the settled parts of Manitoba. (*Atkinson.*) We obtained specimens of this species on the plains of the Saskatchewan, and Mr. Drummond found one of its nests near the source of the Athabaska river. This nest was composed principally of the down of the anemone, bound together with a few stalks of moss and bits of lichen. It ranges in summer as far north as lat. 57° and may go even further. (*Richardson.*)

Breeding Notes.—Generally distributed in Ontario ; breeds commonly about the middle of June. One nest I saw was on the outermost branch of a beech ; the eggs were destroyed by black-

birds and the nest torn down on July 12th. Another nest was on a dead limb of a small hemlock. The nest, like the wood-pewee's, is built on the upper side of the limb. (*Rev. C. J. Young.*) A nest taken at Ottawa was built on a horizontal branch of a tree. It was built of gray lichen lined with soft plant down. Eggs two, pure white, blushed with pink. (*G. R. White.*)

Of three hummingbird's nests I have found, one taken near Ottawa on July 7th, 1890, was seen under exceptionally favourable circumstances. My brother and I spent quite a long time watching the tiny builder. The nest had not yet begun to show cupping, and she was very busy; her absences were short and her visits frequent; twenty or thirty seconds was often sufficient for her to get a load, and she took only from ten to thirty seconds, usually twenty, to finish working it in. The universal testimony seems to be that, while the female is useful, the male is merely ornamental, and takes no part whatever in the work; that was certainly the fact in this instance. (*W. E. Saunders in Ottawa Naturalist,* Vol. XVI, p. 101.) I have a hummingbird's nest made of plant down entirely ornamented with lichens. A crown of these lichens one-third of an inch wide covers the brim. The cavity is all white and its diameter is 0.90 of an inch with a depth of 0.50 of an inch. Outside it measures 1.25 inches in diameter and 1.50 inches in height. I found it near Ottawa on the 29th July, 1906, built on the middle of a horizontal branch of a beech tree at a height of fifteen feet. Small pieces of shells were in the nest. (*A. L. Garneau.*)

429. **Black-chinned Hummingbird.**

Trochilus alexandri Bourc. & Muls.

Confined to the mainland; on both slopes of the Coast range. (*Fannin.*) Summer resident at Chilliwack; not common. (*Brooks.*) This species was found in some abundance at Agassiz, B.C., in May, 1889, and a few at Spence bridge, B.C., on the mountain back from the bridge. Saw several while at the Similkameen river, B.C., in June, 1905. (*Spreadborough.*)

CLXXXI. **SELASPHORUS** SWAINSON. 1831.

433. Rufous Hummingbird.

Selasphorus rufus (GMEL.) SWAINS. 1831.

This species was discovered at Nootka sound by Captain Cook, and I have before me one of the identical specimens. (*Richardson.*) Common on Vancouver island and throughout British Columbia. (*Lord.*) Moderately common everywhere in British Columbia. (*Streator.*) West of the Coast range; an abundant summer resident; the only one to my knowledge on Vancouver island. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) This was a common species at Banff, Rocky mountains, Alta., during the season of 1891, breeding in numbers on the lower branches of the spruce, especially about Vermilion lakes ; observed several in the Crow Nest pass in August, 1897; first seen at Revelstoke, B.C., April 30th, 1890, after that date became very common and still very numerous on May 30th, feeding on raspberry bushes; only occasionally seen at Deer park and Robson, on the Columbia river, in June, 1890; quite common on Mount Queest, Gold range, B.C., at an altitude of 6,500 feet, in August, 1889; not uncommon at Waterton lake, Alta., at the eastern base of the Rocky mountains in July, 1895; very abundant, May 24th, 1904, feeding on the flowers of a large *Penstemon* at Elko, B.C.; rather common in 1905 along the Hope trail, and on the mountains between the Skagit river and Chilliwack lake, B.C.; a few seen at Chilliwack and McGuire ranch, Chilliwack river, B.C., June, 1901; a few seen near the international boundary between Trail and Cascade; very abundant along Murphy Creek trail, just north of Rossland, in July, 1902 ; first seen at Victoria, Vancouver island, April 22nd, 1893, and common by the 25th ; at this date they were feeding in great numbers on the wild gooseberry (*Ribes divaricatum*); a summer resident throughout the island. (*Spreadborough.*) Incredibly numerous on the coast during April migrations; nesting at Nisqually while night frosts still lingered and mercury averaged 45° to 50° during the day. Scarcely less common in many parts of the interior districts and found on the summits of the highest mountains, including the Rockies; nests with eggs nearly hatched found April 18th, 1892. (*Rhoads.*) On June 15th, 1893, I found this species to be common along Vermilion lakes at Banff,

Rocky mountains; three specimens were shot and a nest was found containing two eggs; the nest was attached to the branch of a spruce tree seven feet from the ground. (*W. Raine.*) Mr. T. W. Hanmore, who has been stationed at Tyonck, Cook inlet, Alaska, for eleven years, says that he has seen hummingbirds there several times. (*Osgood.*) One specimen seen on Eagle island, Lynn canal, and one at Glacier, above Skagway, and a nest with two eggs taken. One was seen at the west arm of Lake Bennett, about lat. 60°, B.C., on June 24th, 1899. (*Bishop.*)

This species is a summer resident at Sitka and beyond, thus occurring far along the coast of the North Pacific. (*Nelson.*) Tolerably common in the more open clearings about Sitka, Alaska, and along the quiet shores of the secluded inlets. A nest with eggs nearly hatched was found on June 10th. It was five feet from the ground on a horizontal branch of a fir tree. (*Grinnell.*)

434. **Allen Hummingbird.**

Selasphorus alleni HENSH. 1877.

Eastern Coast range and Rocky mountain districts. (*Fannin.*) One specimen shot about six miles up Eagle pass, west from Revelstoke, B.C., May 25th, 1890; next day another specimen was taken at Revelstoke; not uncommon at Sicamous, B.C., in July, 1889; two seen at Penticton, B.C., May 1st, 1903. (*Spreadborough.*) Breeding near 150-mile House, Cariboo district, B.C., 1901. (*Brooks.*)

CLXXXII. **STELLULA** GOULD. 1861.

436. **Calliope Hummingbird.**

Stellula calliope GOULD. 1861.

Summit of Rocky mountains, altitude 7,000 feet. (*Lord.*) East and west of Coast range. (*Fannin.*) Common at the Crow Nest pass, Alta., in August, 1897; breeding in considerable numbers at Banff, Rocky mountains, in June and July, 1891; while camped at Deer park, Lower Arrow lake, Columbia river, B.C., in the early part of June, 1890, I took seven specimens and they were so abundant that many others could have been taken; they were not observed examining flowers but were seen perching on small trees and

chasing small flies and returning again to their perch just as small flycatchers do; farther down the river at Robson this species was quite rare; in May, 1889, it was not uncommon at Spence bridge, at an altitude of 3,500 feet, and a number were taken; saw a number in a marsh in Depot creek, east side of Chilliwack lake, B.C., July, 1901; saw the first one in 1904 at Elko, B.C., May 20th, they soon became common; one seen at Sidley, B.C., May 25th, 1905; observed at Trail and Cascade, B.C., near the international boundary, in the summer of 1902. (*Spreadborough.*) A very few small "hummers" frequenting the interior and southern Rocky Mountain districts, B.C., were probably *S. calliope.* (*Rhoads.*) Breeding in the mountains west of Clinton, B.C., in 1901. (*Brooks.*)

Breeding Notes.—We have in our museum one set of two eggs taken at Elko station, on the Crow Nest Pass railway, B.C., June, 1900, by Mr. J. Keele. The nest differs from that of the rufous hummingbird in being smaller and having less lichen on the outside. It was fastened to the small twigs of a dead branch of a spruce tree.

Order PASSERES. Perching Birds.

Family XXXVIII. **TYRANNIDÆ.** Tyrant Flycatchers.

CLXXXIII. **MUSCIVORA** Lacépède.

443. Scissor-tailed Flycatcher.

Muscivora forficata. (Gmel.) Oberholser. 1901.

The swallow-tailed flycatcher (*Muscivora forficata*) is such a characteristically southern bird that its accidental occurrence in Manitoba is worthy of note. Last January I was shown a splendid specimen taken at Portage la Prairie by Mr. Nash. He found it lying dead on the prairie on the 20th October, 1884. Its stomach was empty and the bird very emaciated, although in fine plumage. On the previous night there was a sharp frost. In addition to this record, I quote the following rather startling statement from the report on the Hudson bay, by Professor Bell, of the Canadian Geological Survey, 1882. "But the most singular discovery in regard to geographical distribution is the finding of the scissor-tail, or swallow-tailed flycatcher (*Muscivora forficata*) at York Factory, Hudson bay. The specimen in the Government museum was shot

at York Factory in the summer of 1880, and I have learned since that these remarkable birds were occasionally seen at the posts of the Hudson Bay Company, all the way west to the valley of the Mackenzie river." (*E. T. Seton.*) On July 9th, 1899, the writer was out in the country about 26 miles north of Winnipeg, and being out for a walk about 5.30 a.m., noticed a bird with an enormous tail (about twelve inches long) sitting on a bare limb of a poplar tree about 100 yards from me. On closer inspection I found it to be opening and closing its tail. I am quite sure it was a scissor-tailed flycatcher. (*L. Osborne Scott* in *Ottawa Naturalist*, Vol. XIII, p. 195.) This species was shot, May 21st, 1906, at Clarendon station, N.B., by Mr. G. S. Lacey. (*W. H. Moore.*) The specimen taken by Mr. C. W. Nash, in Manitoba, and referred to above is now in the collection of Mr. J. H. Fleming, in Toronto, and Dr. Bell's specimen is in the Geological Survey Museum.

CLXXXIV. **TYRANNUS.** Cuvier. 1799.

444. **Kingbird.**

Tyrannus tyrannus (Linn.) Jordan. 1884.

Audubon (Vol. I., p. 207) found it breeding in Labrador. (*Packard.*) A common summer resident in Newfoundland. (*Reeks.*) Common summer resident in Nova Scotia, but rare at Halifax. (*Downs.*) A common summer resident at Sydney, Cape Breton island, N.B. (*C. R. Harte.*) Fairly abundant from the middle of May to the middle of September in Nova Scotia. (*H. F. Tufts.*) Not rare at Baddeck and Margaree, Cape Breton island, July, 1898; breeding and rather common at Brackley point, Prince Edward island, 1888. (*Macoun.*) Rather common on Prince Edward island, 1892. (*Dwight.*) An abundant summer resident in New Brunswick. (*Chamberlain.*) Observed only at Point du Chêne, in New Brunswick. (*Brewster.*) Common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Seen only in the neighbourhood of houses; very rare in the valley of the Restigouche, N.B. (*Brittain & Cox.*)

Only one specimen seen on the Magdalen islands. (*Bishop.*) Taken at Beauport; a common summer resident in Quebec. (*Dionne.*) Quite common at Bevin lake and Hamilton's farm,

River Rouge, Argenteuil county, Que. (*D'Urban.*) Common summer resident in the Montreal district. (*Wintle.*)

Common summer resident in the Ottawa district; breeds abundantly. (*Ottawa Naturalist*, Vol. V.) Common summer resident at Toronto, Ont.; abundant in the settled districts as a summer resident in the Muskoka and Parry Sound districts. (*J. H. Fleming.*) Common everywhere along the shores of the lakes in Algonquin park, Ont; a pair nested in a canoe birch overhanging the water near the buildings at Câche lake; other birds were nesting near them but were not interfered with. On the other hand they allowed no other intruders around their tree and sat peacefully on the tree or caught flies when necessary in the immediate vicinity. One specimen seen at Albany, James bay, August 28th, 1904. (*Spreadborough.*)

An extremely numerous summer resident wherever there are trees throughout Manitoba. (*E. T. Seton.*) Common at the Grand rapids of the Saskatchewan and at Chemawawin .(*Nutting.*) Common at Aweme, Man., nesting principally in small oaks. (*Criddle.*) First observed at Indian Head, Sask., May 27th, 1892; after which they became common and a steady stream was seen flying north on June 2nd; very abundant all summer, breeding in great numbers; in the summers of 1894 and 1895 this species was found in profusion throughout the whole prairie region, and every piece of brush or patch of rose bushes from Moose Jaw to the Rocky mountains had one or more nests; first seen at Edmonton, Alta., on May 17th, 1897, common by the 19th, June 10th, found a nest in a willow about 12 feet from the ground, with three fresh eggs ; nest composed of weeds lined with grass and horse hair; common in the foothills southwest of Calgary in July ; common from Lesser Slave lake to Peace river, Atha., in 1903; only two pairs were seen at Banff, Rocky mountains in the summer of 1891; quite common at Revelstoke, B.C., and at Deer park, Lower Arrow lake, and at Robson in June, 1890; common at Trail and Cascade, B.C., in the summer of 1902; common along the shores of Osoyoos lake and the Similkameen river, B.C., in 1905; it was found more or less common all the way from Banff to the coast in 1889; common at Chilliwack, B.C., in the spring of 1901; more seen in the

autumn. (*Spreadborough.*) One specimen seen at Grand rapids of the Athabaska. A few birds seen at north end of Methye portage, lat. 56°. A few specimens between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) This well known bird is common on the banks of the Saskatchewan, and ranges in summer to lat. 57°, or beyond it. (*Richardson.*) North to Fort Simpson on the Mackenzie river; rare. (*Ross.*) Vancouver island and throughout British Columbia. (*Lord.*) Abundant in the interior and decreasing in numbers towards the coast. (*Streator.*) East and west of the coast range; more common on the mainland; a summer resident. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Abundant in the interior of British Columbia. (*Rhoads.*)

Breeding Notes.—Common everywhere in Ontario. Its nest is sometimes found as late as the middle of July with fresh eggs. (*Rev. C. J. Young.*) I examined a nest of this bird June 30th, 1880, which was built in a thorn bush in Mount Royal park. It contained younglings covered with white down. Observed from May 4th to August 22nd. (*Wintle.*) Nest found on Duck island near Ottawa, Ont., 1st July, 1897, in a low bush, was composed of fibrous roots and dried vegetable substances, lined with fine grass; eggs four, creamy white, spotted and blotched with reddish and dark brown spots. (*G. R. White.*) On July 21st, 1882, down by the slough in a low bush, found a kingbird's nest. It was just completed and contained no eggs yet. The king and his wife made more fuss over my intrusion than most birds would have done had the nest been full of young ones. Further on I found another nest of this species. It was placed on top of a stub, about eight feet high. The bird flew off. The nest was made of roots and fine fibres and contained four eggs. One of them measured $1\frac{1}{8}$ by $\frac{5}{8}$; it was creamy white, with a few clear spots of brown and lavender, inclined to form a wreath about the large end; the others were similar; all were quite fresh. (*E. T. Seton.*) The kingbird breeds in the low scrubby oak trees which cover the sand-hills in western Manitoba, building, like the shrike, a nest consisting largely of the stalks of a species of *Gnaphalium*. After the young are able to fly they often live around the settler's houses on the open prairie, but about the end of August they all leave. (*Christy.*) Extremely numerous at Pembina, where many nests were taken after the middle of June, and traced westward as far as the survey progressed

that year. One of the nests (3062) was placed on a rail fence, in the crotch formed by the post. In the Missouri region, it was equally abundant from Fort Buford to near the headwaters of the Milk river. Many nests containing two to four eggs were taken the latter part of June and early in July. One of these was particularly interesting, showing that the summer warbler is not the only species that gets rid of the obnoxious eggs of the cow-bird by building a second story to the nest, and thus leaving the alien eggs to addle in the basement below. A nest taken near Frenchman river containing two eggs seemed to be a curiously built affair, and on examining it closely I found the wrong egg embedded in its substance below the others (No. 4185.) The kingbird is not so much attached to woodland as has been supposed. I saw great numbers whilst travelling by rail on the prairies of Minnesota and Dakota, where it seemed to be as much at home as anywhere. All things considered, it may be rated as one of the most abundant and generally diffused species of the whole region under consideration. (*Coues.*) The nests of this species are usually built in an apple-tree in some orchard, and are constructed of dried grasses, weed stems, wool and hair. Wool is the most conspicuous article used in building. One nest observed was within three feet of the ground, being situated in a small apple-tree and was plainly exposed, there being nothing whatever to conceal it. (*W. H. Moore.*)

Abundant everywhere in Manitoba and the west. I have found their nests in the heavy woods, the scrub, under bridges and culverts, under eaves, on fence-post tops and on rail-fence joints. On one occasion I almost ran my boat over a bird sitting on a nest which had been built too close to the water line in the overhanging willows, on the Assiniboine river, and the water having risen until the nest was almost afloat. On a stretch of prairie country northwest of Carberry I discovered a female on a nest built in the slenderest wolf willow, only about two feet from the ground, the leaves dwarfed and blistered by the heat affording no hide or cover for bird or nest. In this case, she almost allowed me to place my hand upon her before she left the nest. (*Atkinson.*)

445. Gray Kingbird.

Tyrannus dominicensis (GMEL.) RICHARDSON. 1837.

One specimen taken at Cape Beale (west coast of Vancouver island), September 29th, 1889, by Miss Cox, and presented to the museum at Victoria. (*Fannin.*)

447. Arkansas Kingbird.

Tyrannus verticalis SAY. 1823.

Two specimens of this species, an adult and one in first plumage, were taken by Mr. D. Losh Thorpe, at Souris coalfields, August 20th, 1891, a little west of Manitoba. (*E. T. Seton.*) Not quite so common as the kingbird in the timber on Skull and Maple creeks, Sask. (*A. C. Bent.*) Observed at Old Wives creek, Sask., its most eastern limit as far as my observation goes, on May 26th, 1895; also at Medicine Hat, Sask., in May, 1894 ; nesting both at Medicine Hat and Crane lake; quite common at Castellated Rocks, near the West Butte, on Milk river, in July, 1895, and westward to the Rocky mountains; breeding in great numbers in southern Alberta; one pair seen on the Columbia river, about eight miles below Deer park, B.C., June 18th, 1890; observed one at Meyer creek, B.C., May 11th, 1905, common along the shores of Osoyoos lake and Similkameen river later in the month; first seen at Penticton, B.C., April 26th, 1903; not rare at Trail and Cascade, B.C., in the summer of 1902; taken at Sicamous, Kamloops and Agassiz in 1889; one pair seen at Chilliwack, B.C., May 27th, 1901. (*Spreadborough.*) This species finds its northern limit in British Columbia, a few miles south of Clinton. It ranges east in the breeding season to the Selkirk mountains. I did not find it on the coast. (*Rhoads.*) Vancouver island and throughout British Columbia. (*Lord.*) Not common on the coast, but more abundant in the interior. (*Streator.*) East and west of Coast range, but chiefly on the mainland; found breeding at Ashcroft. (*Fannin.*) Summer resident; tolerably common at Chilliwack. (*Brooks.*)

BREEDING NOTES.—In the Red river region *T. carolinensis* Alone represents the genus; but throughout the Upper Missouri and Milk river country the two are found together, and it is hard to say which

is the most numerous. They have much the same general habits and often associate intimately together; indeed, I have known one tree to contain nests of both species. The cries of *verticalis* are louder and harsher, with less of a sibilant quality, than those of the kingbird; but there is little else to note as different. The nests of the *verticalis* are bulky and conspicuous, all the more easily found because the bird has a way of leaving the general woods of the river bottom to go up to the ravines that make down from the hillsides, and there nest on some isolated tree, miles away, perhaps, from any landmark. Taking nests of both species at the same time, I found that those of *verticalis* were generally distinguishable by their larger size and softer make, with less fibrous and more fluffy material; but the eggs, if mixed together, could not be separated with any certainty. The sets of eggs taken during the latter part of June consisted of from three to six. Eggs were found as late as the second week of July. The nests were placed in trees at a height of from five or six to forty or fifty feet, generally in the crotch of a horizontal limb, at some distance from the main trunk; but in one case a nest was placed in the crotch which the first large bough made with the trunk. In one case a pair of the flycatchers built in the same tree that contained the nest of Swainson's buzzard, and both kinds of birds were incubating at peace with each other, if not with all the world, when I came along to disturb them. In another one they nested with a pair of kingbirds. The birds display admirable courage in defence of their homes, losing in their anxiety all sense of danger to themselves. (*Coues.*)

CLXXXV. **MYIARCHUS** Cabanis. 1844.

452. **Crested Flycatcher.**

Myiarchus crinitus (Linn.) Licht. 1854.

Have observed this species at Scotch Lake, York co., N.B., in August; they seemed to be migrating in families. (*W. H. Moore.*) Taken near Woodstock, N.B., by Mr. Purdie, in 1878. (*Chamberlain.*) Rare summer resident in woods near Quebec. (*Dionne.*) Common summer resident in the district of Montreal. (*Wintle.*) A common summer resident in the Ottawa district. (*Ottawa Naturalist,* Vol. V.) Regular migrant and summer resident at Toronto, Ont. Reported as common at Beaumaris, on May 12th,

1898, by Mr. Taverner; I believe it will be found distributed over both Muskoka and Parry Sound districts in summer. (*J. H. Fleming.*) A common summer resident at London and in Bruce co., Ont. (*W. E. Saunders.*)

A very rare summer resident of thick woods in Manitoba and northwest to Lake Winnipegosis, where Macoun shot it in 1881; there are also three specimens in the museum at Winnipeg, taken by Hine. (*E. T. Seton.*) A fairly abundant breeding species along the thickly wooded banks of the Assiniboine river, Man.; observed as far north in this province as Fort Ellice, not seen west of Fort Ellice. (*Atkinson.*) Rare at Aweme, Man.; nests in holes, usually the deserted nest of a flicker. (*Criddle.*)

Breeding Notes.—One of those birds that within the last fifteen years are certainly becoming commoner in Ontario. They are numerous in the vicinity of Kingston and on Wolfe island. A curious breeding habit is the use of snake skins in the nest, which is always placed in the hole of a tree. I never saw a nest without pieces of snake skin. They commence to lay about the 1st of June, and are by no means rare now, 1901. (*Rev. C. J. Young.*) This large flycatcher has the peculiar habit of placing around the edge of its nest the cast-off skin of a snake, which is probably done to protect its nest from squirrels taking possession of the hollow wherein the nest is built, as, no doubt, the sight of a snake's skin coiled up would scare that little animal away. I have shot specimens of this species in the months of May and August, and noticed the plumage very fine in the latter month. Observed from May 8th to August 28th. (*Wintle.*) Found this species nesting at Rice lake, Ont., June 16th, 1902. (*W. Raine.*) Nests quite frequently at Ottawa, Ont. Nest is generally built in a hole in a tree about ten feet or more from the ground, where a large branch has been blown off. The nest is composed of straw, leaves, rootlets and vegetable matter, lined with feathers and pieces of snake skin. Eggs, four to five, light buffy brown, streaked lengthwise by lines and markings of purplish and dark brown. A nest found on May 2nd had the young half-grown. (*G. R. White.*) A nest with four eggs was taken near Toronto, Ont., by Mr. W. Raine, May 25th, 1895. It was in a hole in a poplar, fifteen feet from the ground.

CLXXXVI. **SAYORNIS** BONAPARTE. 1854.

456. Phœbe.

Sayornis phœbe (LATH.) STEJN. 1885.

A summer migrant in Newfoundland but not common. (*Reeks.*) One pair seen near Dominion mine, Sydney, Cape Breton island, N.S., August 30th, 1901. (*C. R. Harte.*) A common summer resident in New Brunswick. (*Chamberlain.*) A rare spring migrant at Scotch Lake, York county, N.B. (*W. H. Moore.*) An irregular summer visitor at Beauport, Que. (*Dionne.*) A common summer resident at Montreal. Breeds in Mount Royal park. Nests with eggs found from May 17th to June 9th. Observed from April 3rd to October 8th. (*Wintle.*) Common summer resident in the Ottawa district; usually building its nest close to houses or on the veranda. (*Ottawa Naturalist*, Vol. V.) Abundant summer resident in Muskoka and Parry Sound districts. (*J. H. Fleming.*) One specimen observed at Dog lake, northern Ontario, May 30th, 1896. (*Spreadborough.*) Very common everywhere in Ontario and one of the first arrivals in spring, when the weather is still cold. (*Rev. C. J. Young.*) Rare summer resident in Manitoba, one or two pairs seen each season; usually nests under bridges at Winnipeg; tolerably common (apparently?) as far west as Qu'Appelle. (See E. T. Seton, p. 560.) Spreadborough spent a summer at Indian Head, about ten miles south of Qu'Appelle, and never saw or heard one, and I am led to believe that the pair noted at Qu'Appelle and at Oak point, Lake Manitoba, was *Contopus virens* and not *Sayornis phœbe* as the observer thought. (*Macoun.*) Apparently not common at the Grand rapids of the Saskatchewan; only one specimen secured. (*Nutting.*) A pair had a nest beneath the wharf at Norway House, Keewatin, and several more nests were observed on June 28th, as we were passing through Hell Gate. The nests were placed on the cliffs overhanging the water. (*Preble.*)

First saw one April 19th, 1897, at Edmonton, Alta., next on May 7th, nesting under a bridge, nest built of weeds and moss, lined with grass and horse hair, rather bulky. On June 2nd, found a nest with five eggs in a coal-shed. (*Spreadborough.*) First noticed at Athabaska Landing 23rd May, 1888. The commonest bird up the Athabaska to Lesser Slave river. Eggs had been incubated about a

week on June 1st. Common up the Clearwater river, about lat. 56° 30′, and not rare on Methye portage; common between Methye lake and Isle à la Crosse. (*J. M. Macoun.*)

BREEDING NOTES.—Nest found 21st June at Lac des Isles, built on the end of a fallen tree overhanging the water, composed of mud, grass and moss, lined with fine grass and feathers; eggs, five, white. (*G. R. White.*)

457. Say Phœbe.

Sayornis saya (BONAP.) BAIRD. 1858.

One specimen was observed at Indian Head, Sask., on May 20th, 1892, which was the only one seen; not uncommon at Medicine Hat and Crane lake, Sask., June, 1894; at Crane lake a pair built a nest on the veranda of the farm house just as the phœbe does in the east, and another pair built their nest on a pole passing through the horse corall; in June, 1895, a pair was observed in the "Bad Lands" south of Wood mountain; and westward in the Milk River valley they were quite numerous, breeding on the ledges in the cliffs; a pair was seen at Banff, Rocky mountains, Alta., in 1891; a few individuals seen at Edmonton, Alta., in May, 1897; not rare in the foot-hills from Calgary to Crow Nest pass; not uncommon at Sicamous, Kamloops, and Spence bridge, B.C., 1889; only two specimens seen on Stubbs island, Barclay sound, Vancouver island, August 25th, 1893. (*Spreadborough.*) One individual appeared at Carlton House on the 13th May, when it settled on a low garden fence, flitting from place to place when disturbed; it was soon obtained and a female was shot afterwards. (*Richardson.*) North to Fort Simpson, on the Mackenzie river; rare. (*Ross.*) Several specimens of this bird were brought to me from Fort Reliance, on the Upper Yukon, in lat. 66°. (*Nelson.*) This species was noted at Glacier in the White pass, on the mountain side at Bennett, at Fort Selkirk, at Stewart river, at Charlie river, Yukon district, and at Circle City, in Alaska, in 1899. (*Bishop.*) British Columbia. (*Lord.*) Common in the interior; abundant during the migrations. (*Streator.*) East and west of coast range; but chiefly on the mainland; summer resident. (*Fannin.*) Rare migrant at Chilliwack. (*Brooks.*) Not common; same distribution as *Tyrannus verticalis*. (*Rhoads.*)

BREEDING NOTES.—Nests quite commonly in Saskatchewan, building its nest on rafters in barns and laying four white eggs. (*W. Raine.*) May 27th, 1894, at Medicine Hat, found nest in the unfinished Industrial school. The nest was very compact, composed of fine grass, weeds, wool, cotton and a few feathers. Eggs, five, pink before being blown, white afterwards. (*Spreadborough.*) A nest was taken at Fort Saskatchewan, Alta., by Mr. John Callaghan, May 3rd, 1898. It was made of roots, and moss lined with feathers and was built in a stable.

CLXXXVII. **NUTTALLORNIS** RIDGWAY. 1887.

459. **Olive-sided Flycatcher.**

Nuttallornis borealis (SWAINS.) OBERHOLSER. 1899.

One shot at Nenortatik, Greenland, 29th August, 1840, and sent to Copenhagen. (*Arct. Man.*) Audubon, Vol. I., p. 252, records it from the coast of Labrador. (*Packard.*) One observed on Moose river, near Moose Factory, James bay, June 4th, 1896. (*Spreadborough.*) A common summer resident in Nova Scotia. (*Downs.*) Rather common at Baddeck and Margaree, Cape Breton island, N.S.; July, 1898; breeding in woods at Brackley point, Prince Edward island, July, 1888. (*Macoun.*) One specimen was observed at Souris, Prince Edward island. Prof. Earle was familiar with it. (*Dwight.*) A common summer resident in New Brunswick. (*Chamberlain.*) Summer resident at Scotch Lake, York county, N.B.; but not common; members of the same family keep together when going south. (*W. H. Moore.*) Common in the Restigouche valley, N.B. (*Brittain & Cox.*) A single specimen noted at Plaster cove, Cape Breton island, on June 23rd. (*Brewster.*) Common summer resident in Quebec. (*Dionne.*) A scarce summer resident at Montreal. Breeds in Mount Royal park; arrives about May 8th and leaves about August 20th. (*Wintle.*)

A summer resident in the Ottawa district, but rare. (*Ottawa Naturalist*, Vol. V.) Rare at Toronto; but common in Muskoka and Parry Sound districts. In the spring of 1894 I found this flycatcher not uncommon in the country between Kearney and Sand lake; they frequented the tops of the very tallest dead trees. (*J. H. Fleming.*) Quite an uncommon bird at Toronto. I took one on

August 17th, 1897, and saw one during the past fall (1906); two were taken at Port Credit, 27th August, 1894, by Mr. Massey; I have seen three or four other specimens during the last four or five years. (*J. Hughes-Samuel.*) A very rare summer migrant near London, Ont., but a common breeder in North Bruce. (*W. E. Saunders.*) Abundant and breeding everywhere in swamps in Algonquin park, Ont., June, 1900. Common along the Missinabi and Moose rivers in June ,1904. (*Spreadborough.*) Observed but once, on July 4th, 1900, in a swamp bordering Trout river, between Oxford House and Knee lake, Keewatin. (*Preble.*)

A common summer resident of woodlands throughout northern Manitoba. On July 26th, 1883, in the tamarack swamp beyond the spruce bush I noticed a very noisy flycatcher; its note was loud, and its habits were much like those of the great crested flycatcher. After some trouble, for it was very shy, and kept chiefly among the topmost branches of certain dead trees, I succeeded in getting it. It proved to be a male olive-sided flycatcher; length seven inches; stomach full of flies. (*E. T. Seton.*) One specimen seen at Indian Head, Sask., 1892; from mouth of Lesser Slave river to the Peace river, Alta., in 1903; common at Banff, Rocky mountains, Alta., in 1891, where it was breeding in numbers; in the spring of 1890 it was common at Revelstoke and west to Eagle pass where they were breeding; this species was also common at Deer Park, Lower Arrow lake; and Robson, Columbia river, where they had young; common on the International Boundary between Trail and Cascade, but rarer west to Princeton, B.C. ; at Sicamous and Spence Bridge high up on the mountains in 1889; not common in the Chilliwack valley in 1901 and 1906 but seen in several places; a summer resident throughout Vancouver island; quite common in burnt forest. (*Spreadborough.*) Only one specimen of this species was procured. It was shot on the banks of the Saskatchewan as it was flying near the ground. (*Richardson.*) North to Fort Resolution on Great Slave lake; rare. (*Ross.*) One specimen shot at Athabaska river, a short distance above Grand Rapids, June, 1888. (*J. M. Macoun.*) A single specimen of this bird was brought to me from the lower Yukon in lat. 63°, and is the only instance of its capture on record in Alaska. (*Nelson.*) A specimen from Fort Kenai, Cook inlet, is in the National Museum at Washington. It is an adult male taken by Bischoff, May 26th, 1869.

(*Osgood.*) At Six-mile river I took a female of this species and heard it at Bennett and shot one, but not found at Caribou Crossing, B.C., about lat. 60°. (*Bishop.*) British Columbia. (*Lord.*) A not uncommon and generally distributed summer resident. (*Streator.*) East and west of Coast range; a common summer resident. (*Fannin.*) Summer resident at Chilliwack; not common. (*Brooks.*) Breeding at high altitudes in the Rocky mountain and east Coast range districts of B.C. (*Rhoads.*)

Breeding Notes.—Rare in the counties of Leeds, Renfrew, etc. In the county of Leeds I twice identified this bird. As this was in the summer, it may occasionally breed, as it is reported to do on Mount Royal near Montreal. (*Rev. C. J. Young.*) On June 20th, 1893, at Long lake, Manitoba, I found a nest and two eggs of this bird. The nest was like a large wood pewee's and saddled on to the limb of a tree eight feet from the ground. (*W. Raine.*)

CLXXXVIII. **MYIOCHANES** Cabanis and Heine. 1859.

461. **Wood Pewee.**

Myiochanes virens (Linn.) Ridgw. 1907.

Audubon, Vol. I., p. 233, records it (probably erroneously) from Labrador. (*Packard.*) I am inclined to believe that this is the bird that Mr. Reeks names *Sayornis phœbe* and also the same that Mr. Turner referred to, and that Mr. Packard is in error in referring it to *Contopus richardsonii.* (*Macoun.*)

Common summer resident in Nova Scotia. (*Downs*; *Tufts.*) Shot in Brackley Point woods, Prince Edward island, August 22nd, 1888. (*Macoun.*) Not common, though now and then met with in certain localities on Prince Edward island. (*Dwight.*) Common summer resident in New Brunswick. (*Chamberlain.*) Tolerably common summer resident at Scotch Lake, York county, N.B. Nests built on horizontal limbs from 10 to 50 feet from the ground. (*W. H. Moore.*) Heard in the valley of the Restigouche, N.B. (*Brittain & Cox.*) Summer resident in Quebec. (*Dionne.*) Common summer resident around Montreal; breeds in Mount Royal park. (*Wintle.*)

Common summer resident in the Ottawa district. (*Ottawa Naturalist*, Vol. V.) A summer resident at Toronto, Ont.; a common

breeding species in Muskoka and Parry Sound districts. (*J. H. Fleming.*) Rather rare in Algonquin park, Ont. ; only a few specimens seen in two months in 1900. (*Spreadborough.*) The most common flycatcher in the country regions of southwestern Ontario with the exception of the kingbird. (*W. E. Saunders.*) A tolerably common summer resident of woods in the vicinity of Winnipeg, but more abundant to the north. (*E. T. Seton.*) Only noticed at Pembina (lat. 49°), which is probably at or near its northwestern limit. (*Coues.*) This is the pewee of the deeper woods and is a regular breeding species on the banks of the Assiniboine river as far west as Fort Ellice, Man. (*Atkinson.*)

BREEDING NOTES.—Quite common in beech and maple groves in the county of Leeds, Ont., and around Kingston. I have frequently seen the nest, sometimes as late as July 15th, usually on the upper side of a bough of a beech tree, but occasionally on a maple. I never saw more than three eggs in a nest, several times only two. (*Rev. C. J. Young.*) Mr. A. C. McKeand found a nest of this flycatcher containing three eggs, June 26th, 1885, in Mount Royal park; the nest was attached to the fork of a small horizontal branch of a tree growing on the top of the mountain. The nest of this bird is a difficult one to discover as it is generally built upon a thick horizontal branch. (*Wintle.*) This species breeds at Kew beach, Toronto. It seldom lays more than three eggs in a beautifully built nest, externally covered with pieces of lichen after the manner of the ruby-throated hummingbird. (*W. Raine.*) This nest is placed on a branch where it looks like a knot, or at the end of it on the twigs. It is made of threads of bark, fine grass, pine or hair, held together by spiders' webs, the exterior and brim being covered with lichens. Outside diameter 3 inches; inside diameter 2-2½ inches by ½-¾ of an inch in depth. I have found them in maples, oaks, elms and coniferous trees at an elevation varying from 5 to 50 feet. They contained two or three eggs. On the 3rd of July, 1897, I found a nest with young birds, and on the 21st two new eggs were in this nest. I took three eggs from it on the 26th. (*A. L. Garneau.*)

462. **Western Wood Pewee.**

Myiochanes richardsonii (SWAINS.) RIDGW. 1907.

Audubon, Vol. I., p. 220, states that he found it breeding in Labrador. (*Packard.*) A tolerably common summer resident in

woods and bluffs. This species commonly frequents the open woods and willow thickets while *virens* seems to keep to the heavier, thicker timber. (*E. T. Seton.*) This species was found in the neighborhood of Cumberland House, on the Saskatchewan, frequenting moist, shady woods by the banks of the rivers and lakes. It probably extends its summer range to the shores of Great Slave lake. (*Richardson.*) Fairly common in Manitoba breeding in willow thickets. (*Criddle.*) More common than the preceding species in western Manitoba and seen as far west as Battle river, Alta. (*Atkinson.*) Dr. Bishop took an adult male in the Cypress hills, Sask., July 27th, 1906. (*A. C. Bent.*) First observed in 1892 at Indian Head, Sask., on May 26th; a few were seen after this but they never became common; common from Lesser Slave lake to the Peace river, Alta.; quite common at Banff, Rocky mountains, in the summer of 1891; quite common and breeding in low woods at Revelstoke, B.C.; Deer park, Lower Arrow lake and Pass creek, Columbia river, B.C.; nests usually placed on the limb of a spruce tree in the fork of the branch; tolerably common throughout British Columbia from Revelstoke westward on the line of the Canadian Pacific Railway to Sicamous, Spence Bridge and Agassiz; common everywhere near the International Boundary between Trail and Cascade, B.C., in 1902, at Elko in 1904 and Midway in 1905; seen at Chilliwack, B.C., and at several places on the Chilliwack river, B.C.; first seen near Victoria, Vancouver island, May 19th, 1893; a common summer resident; saw them later in the season at Comox. (*Spreadborough.*) One female secured July 1st, 1898, at Point Barrow, Alaska. (*Witmer Stone.*) North to Fort Simpson, on the Mackenzie river; rare. (*Ross.*) British Columbia. (*Lord.*) Not common on the coast but abundant in the interior; breeds. (*Streator.*) A common summer resident east and west of the Coast range. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Not abundant but represented in all localities visited in British Columbia. (*Rhoads.*) Specimens were taken at Haines Mission and Skagway, Lynn canal; in the Yukon valley, from Windy island, Lake Tagish to Little Salmon. It was more common at Miles cañon than elsewhere on the Yukon, and here I found an unfinished nest which resembled that of *richardsonii*, in the fork of a dead poplar about 10 feet from the ground. It was also seen 12 miles above Circle City, Alaska. (*Bishop.*) This form has been named "Alaska Wood Pewee."

CLXXXIX. EMPIDONAX Cabanis. 1855.

463. Yellow-bellied Flycatcher.

Empidonax flaviventris Baird. 1858.

Two received from Godthaab in Greenland in 1853. (*Arct. Man.*) Apparently a common summer migrant in Newfoundland. (*Reeks.*) Two specimens were seen on the Humber river, Newfoundland, on August 15th, 1899. (*L. H. Porter.*) Several seen on Sable island, N.S., June 8th, 1904, and one seen, June 20th, 1907. (*J. Boutelier.*) A common summer resident in Nova Scotia. (*Downs.*) Fairly common in dense woods at Wolfville, N.S., during the summer. (*H. F. Tufts.*) Found only at Tignish, Prince Edward island; in small numbers. Observed in small numbers at Baddeck, Cape Breton island. (*Dwight.*) A common summer resident in New Brunswick. (*Chamberlain.*) Rather common at Ellis bay, Anticosti, about the edges of the woods. (*Brewster.*) I noticed this bird on the Magdalen islands in 1897, and on the 13th June of that year one came on board the steamer I was on, when off the Gaspé coast. I have not seen it in Ontario. (*Rev. C. J. Young.*) Common at Lake Mistassini, Qué, and breeds. (*J. M. Macoun.*) Taken at Beauport; a common summer resident in Quebec. (*Dionne.*) A rather scarce summer resident in the Montreal district. I have not found a nest of this species here yet but have shot several specimens of the bird. (*Wintle.*)

A rare summer resident in the Ottawa district; a nest of this species was taken at Chelsea, Que., in June, 1897. (*Ottawa Naturalist*, Vol. V.) Regular migrant at Toronto, usually not very common; a common and widely distributed species, breeding in Muskoka and Parry Sound districts. (*J. H. Fleming.*) I usually see one or more of this species at Toronto during the spring and fall migrations; while here they are very shy. On following one I usually find the bird making a series of quiet disappearances. (*J. Hughes-Samuel.*) Not observed to breed near London, Ont., but Dr. P. J. Scott found a nest near Southampton. I found this species, evidently breeding, in the Bruce peninsula where it was rare. (*W. E. Saunders.*) Summer resident in woodlands in Manitoba. Duck mountain, June 11th, 1884, shot a flycatcher that was continually uttering a note like "che-blick"; it was all over of a greenish colour, but yellow on the

belly; it answers fairly well to the description of *flaviventris*, but it is very like an Acadian shot yesterday; evidently the species is breeding here. (*E. T. Seton.*) Only one specimen at the Grand rapids of the Saskatchewan. (*Nutting.*) A regular migrant in Manitoba and noted during the summer at the northern ends of lakes Manitoba and Winnipegosis and about Cedar lake and the mouth of the Saskatchewan river where it evidently breeds in the spruce and moss-covered districts. (*Atkinson.*)

Breeding Notes.—On May 23rd, 1893, at Oak lake, Manitoba, found a nest of this species with four eggs. It was built on a mossy log three feet from the ground in a swampy thicket. (*W. Raine.*)

464. Western Flycatcher.

Empidonax difficilis difficilis Baird. 1858.

Taken at Banff, Rocky mountains, June, 1903. (*W. E. Saunders.*) One seen at Penticton, B.C., April 27th, 1903, and several at Douglas, B.C., May, 1906; abundant at Agassiz, B.C., in May, 1889; a nest was taken that was placed on a rocky ledge in a cool retired place not far from a farmhouse; it was also common at Port Heney and Hastings, Burrard inlet; taken at Chilliwack and McGuire ranch, B.C., June, 1901; first seen at Victoria, Vancouver island, April 26th, 1893; soon after they became common; they were also abundant at Nanaimo, Comox, Sooke and Stubbs island, Barclay sound. (*Spreadborough.*) Rather common but shy and difficult to secure; two males were taken at Cumshewa inlet, Queen Charlotte islands. (*Osgood.*) A single specimen taken by Dr. Bean on June 5th, 1880, at Sitka is the only record of its capture in Alaska, but as others were seen it is doubtless a summer resident. (*Nelson.*) Common throughout the deep forests which border the streams near Sitka, Alaska. A female was taken, June 30th, which contained an egg ready to be laid. (*Grinnell.*) Common in the coast region and more so in the interior; breeds. (*Streator.*) A common summer resident east and west of Coast range. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Mr. Streator says that this species while "common in the coast region is more so in the interior." Not only is this disproved by the specimens taken by him but by my own skins, all of which came from west of the Coast range. (*Rhoads.*) Common at the Grand rapids of the Sas-

katchewan in the dead timber of the muskeg. Three specimens secured. (*Nutting.*) Nutting's specimens were probably *E. flaviventris*.

465. Green-crested Flycatcher.

Empidonax virescens (VIEILL.) BREWSTER. 1895.

The published records all refer to the alder flycatcher but I took what I believe was this species once at Toronto, Ont.; the specimen was lost, however, by the taxidermist who skinned it. (*J. H. Fleming.*)

466. Traill Flycatcher.

Empidonax traillii traillii (AUD.) BANGS. 1903.

I found this species common at Pembina, like *minimus*, during the first week in June, but did not observe it later than the 9th of that month. (*Coues.*) Summer resident in woodlands, breeding freely in the northern part of the province of Manitoba. (*E. T. Seton.*) Rare at Aweme, Man. (*Criddle.*) It is found in low damp ground in willow and alder swamps, and was noted regularly in such places between Portage la Prairie, Man., and Battle river, Alta. along the line of the G.T.P. Ry. in 1906. (*Atkinson.*) Very common at Chemawawin, Sask., especially in the trees bordering a slough, where they seemed to have excellent hunting. They perched on the lowest branches and bushes, and evidently lived on the insects flying over the water. None were secured at Grand Rapids, where it is replaced by *minimus*. (*Nutting.*) A few were seen at Indian Head, Sask., on June 6th, 1892; after this they became common and nested in the woods at Deep lake; not uncommon at Old Wives creek, Sask. in May, 1895, a pair was shot on the 25th of May; quite common at Banff, Rocky mountains and breeding freely in 1891; common at Revelstoke and Deer Park, B.C., in June, 1890; taken at Kamloops, B.C. in June, 1889, and at Sicamous, Enderby and Spence Bridge; and also at Chilliwack and McGuire ranch, B.C., June, 1901; in 1902 they were seen at Trail, B.C.; common at Elko, B.C., May, 1904; one pair seen at Osoyoos lake, B.C., 1905; common on Vancouver island in 1893, when specimens were taken. (*Spreadborough.*) North to Fort Resolution on Great Slave lake;

but rare. (*Ross.*) Little is known respecting the habits of this bird. It was first seen by us at Carlton House, on the Saskatchewan, on the 19th May, flitting about for a few days among the low bushes on the banks of the river, after which it retired to the moist, shady woods lying to the north. (*Richardson.*) North to Fort Simpson on the Mackenzie river; rare. (*Ross.*) A summer resident at Chilliwack. Breeding birds taken at Quesnel, B.C., in 1901 were closer to *alnorum* than to typical *traillii*; the later is the species breeding in the southern portion of the district. (*Brooks.*) Much more common in the interior than on the coast of British Columbia; breeds. We place *all* Mr. Rhoads' specimens collected at Ashcroft, Lac la Hâche, Vernon and Lulu island, though named by him *E. pusillus*, under this species. (*Streator.*)

A single male of this wide-spread little species was brought to me from Nulato in the spring of 1878, and a second specimen was secured at St. Michael the same season. (*Nelson.*)

Most of the prairie references above should doubtless go to *alnorum*.

466*a*. Alder Flycatcher.

Empidonax traillii alnorum BREWST. 1895.

Not a very common summer migrant in Newfoundland; frequents woods in the neighbourhood of houses. (*Reeks.*) A rather common summer resident in Nova Scotia. (*Downs; Tufts.*) Common in margins of woods at Baddeck and Margaree, Cape Breton island, July, 1898; one taken at Mount Stewart, Prince Edward island, July 11th, 1888. (*Macoun.*) A few seen at Tignish, Prince Edward island, in their favourite haunts, the alders. (*Dwight.*) An uncommon summer resident in New Brunswick. (*Chamberlain.*) A tolerably common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Taken at Beauport; a summer resident in Quebec. (*Dionne.*) A scarce summer resident in the Montreal district; breeds in Mount Royal park, where I have found their nests with eggs from June 19th to July 30th, for several years past. (*Wintle.*) A common summer resident in the Ottawa district. (*Ottawa Naturalist*, Vol. V.) Rather rare near London, but more common to the north and east. (*W. E. Saunders.*) Not common in Algonquin park, Ont.; only a few seen on the Madawaska river

below Câche lake. Common from Missinabi, Ont. to Point Comfort on the east coast of James bay in all the willow thickets in 1904. (*Spreadborough.*) Rare spring migrant; one seen in September, 1906. I took a male at Emsdale in Muskoka, on May 29th, 1899; Mr. Kay has taken the nest of this species at Port Sydney, in the same district. (*J. H. Fleming.*)

Flycatchers referred to *alnorum*, were several times observed by us at Norway House, Keewatin, but we were unable to secure one. (*Preble.*) Bishop took an adult female in the Cypress Hills, Sask., July 27th, 1906. (*A. C. Bent.*) One specimen taken and others seen at Lesser Slave river, Athabaska, May 23rd, 1888. (*J. M. Macoun.*) First seen May 26th, 1897, at Edmonton, Alta.; common by June 2nd. It is always found in the clumps of willow and alder and never in heavy timber. Common from Lesser Slave lake to the Peace river, Alta. in 1903. (*Spreadborough.*) We first found this species at Fort Selkirk, where the Pelly and Lewes unite to form the Yukon, in lat. 62° 50′, and hardly lost it again until we reached Circle City; later I heard one 15 miles below Fort Yukon, Alaska, August 21st, 1899. (*Bishop.*)

Many of the references under *traillii* should go here.

Breeding Notes.—The variety recently called the "alder fly catcher" is the species usually met with along the St. Lawrence and northward. I would observe that this name is very appropriate. I have commonly met with the bird in moist, low situations, where alder, willow and *Spiræa* abound. The nest I have seen several times; three near Renfrew, Ont., that I found were two or three feet above the ground; one in a wild currant bush, another in the thick bushy part of a willow, and the third in *Spiræa*. Also near Lansdowne, Ont., I found the nest in *Spiræa* in an identical locality, the middle of June. The eggs are three or four, and are distinctly spotted with brick red. The bird, when near its nest, is wary and hard to observe. (*Rev. C. J. Young.*) Breeds in Mount Royal park, where I have found their nests with eggs from June 19th to July 30th for several years past. This flycatcher is a very shy bird to approach when on its nest during the term of laying the eggs, but will sit close when hatching them. I have always found their nests built in a thin thorn bush or light undergrowth wood, from a

few inches to about two feet above the ground, and generally within sight from a footpath on the mountain. Observed here from May 24th to July 30th. I think this species migrates south in the month of August as I never met with it in the autumn. (*Wintle.*)

To build its nest, this bird first covers the stems of shrubs, raspberry bushes, and especially alders with long plant-down. Then grass, fibres of bark or reeds are tied inside of the stems with the plant-down, instead of being twisted around them. Then the nest is lined with thin grass and sometimes with hairs or hair-like roots. External diameter 3 or 3.50 inches and height variable from 2 to 3.50 inches. Inside diameter 2 inches by 1.25 or 1.50 inches in depth. The elevation of the nest from the ground is from one to six feet. Between Ottawa and Lake Nominingue three or four eggs are laid in June and July. (*A. L. Garneau.*)

467. Least Flycatcher.

Empidonax minimus BAIRD. 1858.

Audubon, Vol. I., p. 237, found it nesting in Labrador ; obtained by Drexel at Moose Factory, James bay, August, 1860. (*Packard.*) A rare summer migrant in Newfoundland. (*Reeks.*) Common along Moose river to James bay at Moose Factory, June, 1896. (*Spreadborough.*) A common summer migrant in Nova Scotia. (*Downs.*) A common summer resident; equally common in remote woods or in orchards and gardens. (*H. F. Tufts.*) Not uncommon at Baddeck, Cape Breton island. (*F. H. Allen.*) Union Road, Prince Edward island, July 21st, 1888. (*Macoun.*) A cheerful series of "che-bies" greeted me one morning at Souris, P.E.I.; no others were seen. (*Dwight.*) A rare summer resident near St. John, N.B. (*Chamberlain.*) Common summer resident at Scotch Lake, York co., N.B. (*W. H. Moore.*) Common in the Restigouche valley, N.B. (*Brittain & Cox.*) Taken at Godbout river; a rather rare summer migrant at Quebec. (*Dionne.*) A scarce summer resident in the Montreal district; breeds on the island of Montreal. (*Wintle.*) A common summer resident in the Ottawa district. (*Ottawa Naturalist*, Vol. V.) Common migrant at Toronto, Ont. The most abundant of the small flycatchers in the Muskoka and Parry Sound districts. (*J. H. Fleming.*) More common in the

city of London, Ont. itself than in the country a few miles out. One hears it in nearly every shaded street. (*W. E. Saunders.*) Very abundant everywhere in Algonquin park, Ont., July, 1900. (*Spreadborough.*) A nest containing well incubated eggs was collected near the south end of Oxford lake, Keewatin, on the morning of June 30th ; the female bird was taken with the eggs. (*Preble.*)

Very abundant at Pembina and west to Turtle mountain, in lat. 49°, beyond which it was not seen. (*Coues.*) A very abundant summer resident of open groves extending its range throughout the wooded part of the province of Manitoba. (*E. T. Seton.*) Common at the Grand rapids of the Saskatchewan. (*Nutting.*) Next to the kingbird, the commonest flycatcher all over Manitoba and west to Edmonton. (*Atkinson.*) Abundant about Aweme, Man. (*Criddle.*) The commonest flycatcher in the timber at Skull and Maple creeks, Sask. (*A. C. Bent.*) First seen at Indian Head, Sask., May 27th, 1892, later they became fairly common and bred in numbers in the vicinity of Deep lake; collected at Medicine Hat and Crane lake, Sask., in June, 1894; abundant on Old Wives creek, Sask., at its mouth, May 24th, 1895; this species was seen all the way up Old Wives creek and at Wood Mountain Post; a small flycatcher was seen at Farwell creek, Cypress hills, Sask., which may have been this species; taken at Canmore, Alta., within the Rocky mountains, but replaced at Banff by Wright's flycatcher. First seen at Edmonton, Alta., May 12th, 1897, common next day; abundant from Lesser Slave lake to Peace River, Alta., in 1903; in the foothills southwest of Calgary, common in July. (*Spreadborough.*) North to Fort Simpson on the Mackenzie; common. (*Ross.*)

Breeding Notes.—A bird almost resembling the last, but a trifle smaller. It breeds commonly in the counties of Leeds and Renfrew, selecting a very different locality from *traillii* for its nest. It is a familiar bird, frequenting orchards and the vicinity of houses, as well as the second growth woods. The nests I have seen resemble a redstart's and were built in the crotch of a maple and of apple trees. They contained four yellowish white eggs, which were laid about the end of May, about two weeks earlier than the last. It is also very common in the neighbourhood of Sharbot lake, where, in 1903, I noticed five nests close to one another. (*Rev. C. J. Young.*) I found it common on my arrival, the 1st of June, and during that

month secured a large series of specimens, including many nests and eggs, the latter not until the middle of the month. The usual site of the nest is the upright crotch formed by three or more diverging twigs of some sapling or stout bush, usually ten or twelve feet from the ground. One nest that I took I could reach standing on the ground, but another was in a slender elm tree some 40 feet high, on a swaying bough, but in a crotch of upright twigs, as usual. The female during incubation is as close a sitter as some of the ground sparrows. In one instance, I came within an arm's length before the bird flew, and then she merely fluttered out of reach and stood uttering a disconsolate note. The nest is usually let deeply down into the crotch and bears the impress of the twigs. It is composed of intertwined strips of fine fibrous inner bark and decomposed weedy substances, matted with a great quantity of soft plant-down, and finished with a lining of a few horse hairs or fine grasses, making a firm, warm fabric, with a smooth, even brim about 2½ inches across outside and less than 2 inches deep; general shape tends somewhat to be conical, but much depends upon the site of the nest. The walls are thin, sometimes barely coherent along the track of the supporting twigs. The cavity is large for the size of the nest, scarcely or not contracted at the top; and about as wide as deep. In six instances, I found not more than four eggs, which seems to be the full complement. These are pure white in colour, of ordinary shape (but variable in this respect), and measure about two-thirds of an inch in length by one-half in breadth. Extremes of length noted were 0.59 and 0.68; the diameter is less variable. (*Coues.*) Nests every year at Kew Beach, Toronto; also breeds commonly in Manitoba and Saskatchewan. (*W. Raine.*) Breeds in the vicinity of Ottawa. Builds a small, neat, compact, deep-cupped nest in upright crotch of tree; nest is composed of fine fibrous inner bark, and the decomposing outer substance of various weeds, lined with a soft plant down, horse hair and fine grass tops. Eggs, three or four; pure white. (*G. R. White.*) One nest was found in the month of June in the upright fork of a small elm tree, four feet from the ground. It measured 2.50 inches in diameter and 2.50 in height; the cavity had a diameter of two inches and a depth of 1.75 inches. (*A. L. Garneau.*) June 2nd, 1897, found two nests at Edmonton, Alta., one in the fork of a small poplar about two feet from the ground. Nest very compact, just like a yellow warbler's nest, four eggs nearly

fresh. The other was in a larger poplar about 25 feet from the ground; nest same as the first; eggs nearly fresh; next day found two more nests, one in a willow about seven feet from the ground. The other was in a balsam poplar about two feet from the ground. Nest very compact, composed chiefly of willow down lined with a little dried grass. I have found nests all the way from four to thirty feet from the ground. (*Spreadborough.*)

468. **Hammond Flycatcher.**

Empidonax hammondi (XANTUS) BAIRD. 1858.

Reference is made to some eggs of this flycatcher, obtained from "Anderson River," in Vol. II. of the Proc. of the U.S. Nat. Mus. by the late Dr. Brewer, of Boston, which, I conclude, were sent to the Smithsonian by me. (*Macfarlane.*) Rather common; specimens from Ashcroft, Ducks, Mount Lehman, and New Westminster, B.C. (*Streator.*) Chiefly on the mainland, east and west of Coast range; common at New Westminster, B.C. (*Fannin.*) This species which appears to be the western representative of *minimus* was only found in the Rocky mountains where a single specimen was secured in August, 1874. (*Coues.*) Taken on Lee creek, near Cardston, southern Alberta, and at Waterton lake, where Dr. Coues obtained his specimen; common at Trail, B.C., near the International Boundary in the summer of 1902; June 1st found a nest in a hemlock tree, out on a slender branch about 16 feet from the ground; June 12th, found another nest in a small cedar tree about eight feet from the ground; common west of Midway, B.C., May 25th, 1905; not uncommon on Chilliwack river, B.C., in June, 1901; saw one specimen, which I took to be this species, on Mount Benson, near Nanaimo, Vancouver island, July 10th, 1893. (*Spreadborough.*) Of uniform distribution on mainland and islands, B.C., breeding wherever found. (*Rhoads.*) I have the nest with three eggs and the parent bird that were collected for me by Mr. Wenman at the base of Moberly peak, Rocky mountains. The nest was built six feet from the ground on a branch of a tree, and the eggs are creamy white; they were collected May 31st, 1902. (*W. Raine.*) We saw several of this species at Skagway and collected three. I took one at Glacier, June 8th, and another on a hill above Caribou Crossing, B.C.; after this, we did not meet with this bird until about

fifteen miles above Selwyn river, where Osgood shot a young one, July 29th. From that point to Charlie creek, it was almost equally common with *alnorum*, frequenting the same localities, but after passing Charlie creek, we saw no more of it. (*Bishop.*)

469. **Wright Flycatcher.**

Empidonax wrightii BAIRD. 1858.

Only two taken; a rare migrant at Chilliwack, B.C. (*Brooks.*) Instead of *traillii*, which I expected to find in the Rocky mountains, this species was taken in that locality. Three specimens taken during the latter part of August, 1874, on the International Boundary in lat. 49°. The bird doubtless breeds in this region, which is the northernmost point by far at which it has been observed. (*Coues.*) Dr. Bishop found it common with half-fledged young in the Cypress hills, Sask., from June 25th to June 30th, 1905. (*A. C. Bent.*)

This species was mixed with *minimus* at Canmore, within the Rocky mountains, but although a number of specimens were taken at Banff, twenty miles further west, *minimus* was not taken in the summer of 1891. The species is apparently common in the mountains, as it was very abundant at Revelstoke, B.C., on the Columbia river, and breeding there and at Deer Park and Robson, on Arrow lake, and below it; it was not uncommon at Sicamous, B.C., in July, 1889; and specimens were taken at Hastings, Burrard inlet, in April, 1889; specimens taken at Spence Bridge, B.C., in May and June, 1889. (*Macoun.*)

FAMILY XXXIX. **ALAUDIDÆ.** LARKS.

CXC. **ALAUDA.** LINNÆUS. 1758.

473. **Skylark.**

Alauda arvensis LINN. 1758.

Accidental in Greenland and Bermuda. (*A. O. U. Check-List.*)

CXCI. **OTOCORIS.** BONAPARTE. 1838.

There is still much uncertainty about the horned larks, and as specimens are not available for comparison many of the old citations

as given in the first edition of this Catalogue must stand, though in some cases plainly incorrect. In the present edition *leucolæma* of the first edition has been changed to *arcticola* and *arnicola* to *leucolæma*. *Hoyti* and *enthymia* have been added, though the last has not been generally accepted by ornithologists. Preceding the distribution of each subspecies that of Mr. Oberholser is given.

474. Horned Lark.

Otocoris alpestris (LINN.) BONAP. 1838.

In summer, northeastern British Columbia, west of Hudson bay, from Newfoundland, Labrador and the head of James bay, northward; accidental in Greenland, in winter west to Manitoba. (*Oberholser.*)

One shot at Godthaab in October, 1835, but known before to occur on the other side of Davis strait at Cape Wilson, 10th July 1822. (*Arct. Man.*) Common summer resident in Labrador. Breeds at the mouth of the Koaksoak river and at Rigolet. (*Packard.*)

Abundant everywhere on the bleakest and most exposed hillsides of northwestern Labrador. So far as I could determine all the horned larks observed were of this race. (*Bigelow.*) Common and breeding on the rocky islands of James bay from Moose Factory to Richmond gulf: not observed in the interior between Richmond gulf and Ungava bay in 1896. (*Spreadborough.*) Greenland, Newfoundland, Labrador and Hudson bay, southward in winter into the United States. Our bird breeds far north of the United States, about the shores of Hudson bay, Labrador and Newfoundland. Breeding birds have been examined from Fort Chimo and Davis inlet, Labrador; Penquin island, Cape St. Mary, and Canada bay, Newfoundland; Moose Fort, James bay; non-breeding from Toronto and Rat Portage, Lake of the Woods, Ont.; also from Manitoba. (*Dwight.*) Common during the spring and autumn migrations, in Nova Scotia. (*Downs; Tufts.*) In numbers on Sable island, N.S., January 14-21, 1904 ; three individuals seen January 6, 1905, and one September 30, 1901. (*J. Boutelier.*) A winter resident at St. John, New Brunswick. (*Chamberlain.*)

Taken at Beauport; a migrant in Quebec. (*Dionne.*) A transient visitant at Montreal; scarce. I shot five specimens of this species out of about a dozen found feeding on the river ice-roads in front of the city, April 8, 1887, but since that time have not met with them, in the spring of the year; in the autumn only from October 20–26th. (*Wintle.*) The horned larks of the Ottawa district were for the first time satisfactorily determined and distinguished in the spring of 1890. This species arrived April 19th and remained together in flocks till May 25th, when it departed; it was again present in the fall from September 26th to October 28th. (*Ottawa Naturalist*, Vol. V.) Formerly common at Toronto; Mr. Lamb of Toronto has a specimen taken at Gravenhurst in Muskoka district. (*J. H. Fleming.*) The typical horned lark is commonly met with along the St. Lawrence below Kingston in the winter and spring, and I think in the month of September. (*Rev. C. J. Young.*) Exceeding rare; two specimens taken by Mr. J. Keays in December, 1899, are intermediate between this species and the var. *leucolæma*. (*W. E. Saunders.*) Some winters large flocks of shore larks visit Kew beach, Toronto, and a few pairs occasionally remain and nest here early in April, but of course this is exceptional as the summer home of this bird is further north around the gulf of St. Lawrence and Labrador. Toronto, March 4, 1900, as I sat writing at my desk flocks of shore larks kept passing in front of the window, and some settling on the road in front of my house. I put a cartridge in my gun and walking to the front door shot three birds with one discharge. Few can boast of shooting horned larks from the doorway of their homes. April 8, 1900, Mr. Winton Thompson, of Kew beach, took me to a nest of the horned lark he had found; it contained three eggs and the bird had begun to sit although the ground had patches of snow around the nest, and the nights were cold. In order to satisfy myself this was the nest of the true *alpestris* I got up early next morning and shot the parent, which proved to be *alpestris* and not *praticola*; the eggs, like the bird, are one-third larger than those of *praticola*. Port Hope, Ontario, March, 29, 1900, Mr Meeking. found a nest containing four eggs of this specie, and on April 13th he found another set of three, and on April 28, 1900, he found another set of four eggs at the same place. These sets collected at Port Hope are now in my collection, and the eggs from all the nests average larger than those of the prairie horned lark collected by me on Toronto island

and in Manitoba. (*W. Raine.*) Common from Cape Henrietta Maria, Hudson bay, to Missinabi, Ont., in late August and September. A few breed at Cape Henrietta Maria. (*Spreadborough.*) Specimens of the true *alpestris* were taken by myself at Rat Portage, and at Carberry, in the fall. (*E. T. Seton.*) We have one specimen of the species taken at Ottawa, May 15, 1890, by Mr. W. E. Saunders. Mr. Saunders is of the opinion that Mr. Raine is wrong in thinking that *alpestris* bred at Toronto.

474*a*. **Pallid Horned Lark.**

Otocoris alpestris arcticola, OBERHOLSER. 1902.

In summer, Alaska (chiefly the interior) with the valley of the Yukon river. Breeding birds have been examined from Fort Yukon and St. Michael, Alaska; and from Fort Reliance, Yukon river, Yukon district. Non-breeding specimens have been examined from Chilliwack, Sumas Prairie, Osoyoos, Okanagan, and Revelstoke, B.C.; also from St. Louis, Sask. (*Oberholser.*)

Alaska and western British America, southward in winter into the United States. A few breeding birds from the Saskatchewan and Great Slave lake region, though tinged with yellow on the chin, are, on account of size and colours somewhat paler than *alpestris* referable to *leucolæma;* so too, are large dark birds with white eyebrows and pale yellow chins found in winter in the upper Mississippi valley, coming as they doubtless do from an intermediate region between Hudson bay and Alaska. Breeding birds of these two races are few and limited mainly to those taken on Government expeditions; consequently I do not draw the lines on the map as closely together as with some of the other races better defined. Two young, in first plumage, taken on the Arctic coast, east of the Anderson river, may be referred to this race. While they are not as black and white as might be expected in Alaskan birds, they lack the general yellowishness of young *alpestris* from Newfoundland. In winter *leucolæma* is found as far south as the middle of the western United States, mostly east of the Sierra Nevada mountains. Northwest coast specimens indicate that a small-sized *leucolæma* may breed in the mountains not far north of the United States boundary, though such birds may generally be referred to *merrilli*. A male in autumn plumage, taken August 26th at Chief

Mt. lake, on our northern boundary, long. 114°, W. suggests the possibility of this form breeding also on the mountains at that point, or not far to the north. It is not reported from Pt. Barrow, is rare at St. Michael, Alaska, and is probably an interior race. Breeding birds have been examined from Fort Yukon and St. Michael, Alaska; Arctic coast east of Fort Anderson, also Horton river and Franklin bay; from Fort Reliance, Fort Resolution and Big island, Great Slave lake; also from Saskatchewan region. Non-breeding from Chilliwack, B.C. (*Dwight.*) This very handsome lark arrives in the Northwest Territories along with the Lapland bunting, with which it associates. It retires to the marshy and eastern wooded districts to breed, extending its range to the shores of the Arctic sea. (*Richardson.*) East of and including the Coast range ; I have taken it on the summit. (*Fannin.*) Common spring and autumn migrant at Chilliwack, B.C. (*Brooks.*) This species arrives before the first of April at Indian Head, Sask., but in what numbers it is hard to determine as the form that remains to breed may be *praticola* or *arenicola* or even *hoyti.* The specimen in our collection was shot on April 12, 1892, and on the same day I took a specimen of *arenicola;* on April 19, 1890, another specimen was taken at Revelstoke, B.C., where they appeared to be common; in April, 1891, specimens were taken at Banff, Rocky mountains; no specimens that proved to be this form were taken in the autumn ; four specimens taken at Huntingdon on the boundary between Washington and British Columbia, in September, 1901, proved to to be this form. It is more than probable that Dr. Dwight is correct when he says that this may breed on the mountains north of the United States boundary. (*Spreadborough.*) Kenai mountains, Alaska, found breeding on the high barren mountains. (*Figgins.*) A small flock of ten or fifteen was seen flying about the summit of the " Portage mountain " between the head of Chulitna river and Swan lake, Alaska. (*Osgood.*) Throughout Alaska this species appears to be very rare. Two specimens were taken in the vicinity of St. Michael during my residence there, and three were secured on the upper Yukon. All these were young males. It is much more common on the upper Yukon in spring and summer than along the shores of Behring sea, where it can only be counted a very rare straggler. (*Nelson.*) A single specimen of this bird was brought to me by a native who said he had just killed it at Egg island, a few miles from the village of St. Michael. (*Turner.*)

A careful reading of Mr. E. T. Seton's article on the horned lark in his "Birds of Manitoba" shows that the winter birds seen in flocks are undoubtedly this form. It is very probable that *praticola* is a later arrival. Nash says "that at Portage la Prairie *praticola* is a spring and fall visitant; stays nearly all winter; disappears and reappears at intervals; arrives about March 20th, reappears in August, and departs in October." Now to me this is exactly what a bird breeding on the "barren grounds" would do, so I conclude that this form is the one mentioned by Nash and included in *praticola* by E. T. Seton. Two darker coloured specimens taken at Indian Head, Sask., in September, 1891, and named *hoyti* by Bishop are placed here. This is very likely the form that Dr. Bell found breeding at York Factory and Fort Churchill on Hudson bay. (*Macoun.*)

Many of the above references go to *hoyti* or *enthymia.*

BREEDING NOTES.—On May 29, 1893, at Rush lake, Sask., I found three nests containing eggs of this species. The nests were built in hollows in the ground, the brim of the nest flush with the surrounding soil. Each nest contained four eggs similar to those of the prairie horned lark. I secured two birds which are easily distinguished from the prairie horned lark by their paler form. (*W. Raine.*) Nine nests of this lark were received at Fort Anderson, a few of them from the Esquimaux and the others were collected by us in the "barrens" and on the coast of Franklin bay. The nest was usually composed of fine hay neatly disposed and lined with deer hair. Several of the parent birds were secured by snares placed thereon. (*Macfarlane.*)

474. Oberholser Horned Lark.

Otocoris alpestris enthymia OBERHOLSER.

In summer, Saskatchewan, with possibly southwestern Manitoba. Breeding birds have been examined from Indian Head and St. Louis, Saskatchewan. (*Oberholser.*) Very common on the prairies, particularly on the barren hills north of Maple creek and on the alkaline plains. No nests were found but fully fledged young, in juvenal

plumage, were taken as early as June 13, 1906. The birds of this region are intermediate between this form and *Otocoris alpestris enthymia* Oberholser. We collected quite a series of horned larks most of which, particularly those collected on the prairies in the eastern portion of the region we visited, were nearer *enthymia*, while those collected on the alkaline, sage-brush plains of western Saskatchewan and in Alberta were more typical of *leucolæma*. This new form described by Mr. Oberholser in 1902 and first noted by Dr. Bishop in North Dakota in 1895, seems to be well marked and worthy of recognition, as the bird of the northern prairie region. But as it has not yet been formally accepted I must list our birds as *bteucolæma*. (*A. C. Bent.*)

Should this form be recognized as a good one many of the references given elsewhere in this Catalogue must be transferred here.

474*b*. **Prairie Horned Lark.**

Otocoris alpestris praticola HENSH. 1884.

In summer, southern Canada from Manitoba to the north shore of the gulf of St. Lawrence. Breeding birds have been examined from Chateau bay, Labrador; Gatineau Point, Quebec; Ottawa, Kingston, Toronto, Lorne Park, Peel county, Bracebridge, Windsor, Kenora and Rat Portage, Ontario; Carberry, Boggy creek and Big Plain, Manitoba. (*Oberholser.*)

This bird is a miniature *leucolæma*, somewhat darker and with a pale yellow chin which is seldom bright, and is often white. Autumn birds seem to show more linear spots on the breast than do the other forms, but this is not a constant feature. It seems to have gradually extended its range eastward as the woods have disappeared, and we can see why it should be nearer to *leucolæma* than to *alpestris*. However, as we go westward, we find a direct gradation into *arenicola* and this race passes directly into *leucolæma*. Now *leucolæma* passes into *alpestris*, and somewhere in the Saskatchewan or Winnipeg regions we shall find, I venture to say, breeding birds that might be referred to any one of these four forms. Breeding birds have been examined from Toronto, Peel county and Rat Portage, Ontario; Carberry, Manitoba. (*Dwight.*)

A specimen of this form was shot at Chateau bay, southern Labrador, on July 14, 1891, which was possibly a straggler, but may indicate that this form is a regular summer visitant to all eastern Quebec and the Straits of Belle Isle. (*Norton.*) A common summer resident in the Montreal district. They have been found breeding here before the winter's snow has melted off the ground; they arrive in February and leave in November. (*Wintle.*) Occasional at Quebec. (*Dionne.*) A common summer resident in the Ottawa district; it arrives before the end of February and remains all summer to breed, and leaves about the beginning of November. (*Ottawa Naturalist*, Vol. V.) An abundant, breeding, summer resident in the Muskoka and Parry Sound districts. The date of its first appearance at Port Sydney, as given by Mr. Kay, was 1887. (*J. H. Fleming.*) Summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Reaching us during the early days of February, these birds soon became very abundant. On February 20, 1900, they were especially so along the lake shore, and wherever a patch of weeds was in evidence above the snow dozens of the birds were hurrying to and fro clearing up all the seeds and enlivening the scene with merry little snatches of song. (*J. Hughes-Samuel.*)

This is a common summer resident in Manitoba, breeding freely on the open prairie. (*E. T. Seton.*) There are probably three or four forms of horned larks in Manitoba The form I have been in the habit of calling *praticola* arrives at Aweme about February 24th and departs about November 13th, a few being seen at intervals through the winter. Two specimens of *praticola* were determined for me by the United States Biological Survey; these were shot early in March. Another form arrives with the Lapland longspur. This I have been in the habit of calling the desert horned lark. (*Criddle.*)

Breeding Notes.—This sub-species arrives in February and March, and continues all summer. Early in February this year (1901) I saw a number of horned larks on the ice between Kingston and Wolfe island; they are often in company with snow buntings; the first prairie horned larks I saw on February 17th, (3), and one on February 28th near the head of Wolfe island. They are tamer and more familiar birds than the northern variety, and are now breeding commonly in Ontario. In the townships of Lansdowne

and Escott, and around Kingston, they nest every year. I have found the nest with eggs, in which incubation has begun, as early as March 29th, and just hatching on April 23rd, 1895. The usual time for laying is the first week in April, before the snow has all melted in the spring. I have a record clipped from a newspaper, of a nest on Wolfe island with four eggs, on March 8th, and frequently the young birds are hatched by the middle of April. Three eggs is the commonest number, but I have found four three times, and five once, April 13th, 1899. A comparatively few years ago this bird was unknown as breeding in eastern Ontario. (*Rev. C. J. Young.*) On May 12, 1882, at camp, eight miles south of Brandon, midway between our tent and the fire ten feet away, I started a small bird from its nest. It ran away very reluctantly, and continued wistfully close at hand, running about among the tufts of grass in the glare of the fire, returning each time as soon as it dared. At gray dawn I found her on the nest again; she slowly walked away when I approached to rekindle the fire, but returned almost immediately with her mate; and now, for the first time, I saw them plainly. They were a pair of shore larks. Encouraged ,no doubt, by the presence of her mate, she once more crept to her nest and took up her position on the eggs, although I was but five feet off. Frying our bacon over a brisk fire, I was very careful to avoid hurting the birds or their home; and breakfast being over, travellers, tent, fire and horses all went off and left them to discharge their duties in peace. The nest contained three brown eggs; it was sunken in the ground, and was made of grass and fibre, and lined with two or three large feathers. (*E. T. Seton.*) Common resident from January to October; usually rare in November and December; an exceedingly early breeder, eggs having been taken in March, and on April 25, 1900, a brood of young left the nest able to fly. Raises two or probably three broods in a season. I have once found the young actually hatched in March. (*W. E. Saunders.*) The nest is found in the fields and is placed in a hole dug in the ground by the bird. It is made of dry grass, the brim level with the ground, and lined with plant down. Sometimes it is hidden under coarse grasses. External diameter, 3 or 4 inches; height, 2.50 and 3 inches. Internal diameter, 2.50 inches by a depth of 1.50 and 2 inches. I have found around Ottawa hatched eggs on the 6th April, and fresh eggs on the 7th, and only younglets at the end of that

month. (*A. L. Garneau.*) This bird nests on Toronto island and on Toronto sand-bar at Ashbridge bay, seldom having eggs, before the middle of May, as the instances when shore larks nests have been found here at the end of March and first week of April, while snow was on the ground, have proved to be the eggs of *alpestris* and not *praticola*. This variety of horned lark breeds commonly in Manitoba. In northwestern Saskatchewan and Alberta it is replaced by the pallid horned lark. (*W. Raine.*) At Ottawa this bird builds in a shallow hole in the ground. The nest is composed of grass and lined with fine grass, horse hair and feathers. Eggs four or five. Greyish white, marked with spots of brownish purple. (*G. R. White.*)

Further accounts of the breeding habits of this bird will be found in *The Ottawa Naturalist*, Vol. XIV, p. 23, XVI, p. 226 and XX, p. 40.

474*c*. Desert Horned Lark.

Otocoris alpestris leucolœma (Coues.)

In summer from latitude 49° north on the eastern side of the Rocky mountains into Alberta. Non-breeding birds have been examined from Calgary, Alberta, and from Medicine Hat, Saskatchewan. (*Oberholser.*)

In the writer's trip across the prairie this form was found everywhere on the prairie south of lat. 50° from the 100th meridian to the 114th at the base of the Rocky mountains. Our northern specimens are three from Indian Head, Sask., taken between April 7th and 12th, 1892; four others from Medicine Hat, taken between April 6th and May 2nd, 1894. On the prairie south of the line of the Canadian Pacific Railway this species with McCown's bunting and the chestnut-collared bunting were extremely common and constantly flocked together. (*Macoun.*)

Breeding Notes.—The horned lark is one of the species which, in this latitude, usually rears at least two broods each season—a fact which in part accounts for the preponderance of individuals over those of the species with which they are associated. I have already adverted to the extremely early nesting-time which has been ascertained and have only to add that the period of repro-

duction is protracted through July. I have observed young birds on the wing in June, and found fresh eggs in the nest during the latter half of July. In fact, all through the summer months the troops of larks everywhere to be seen consist of old birds mixed with the young in all stages of growth. The great flocks, however, are not usually made up until the end of the summer, when all the young are full grown, and the parents having concluded the business of rearing their young, have changed their plumage. The young of the first brood soon lose the peculiar speckled plumage with which they are at first covered; the later ones change about the time the feathers of the old birds are being renewed. The agreeable warbling song is scarcely to be heard after June. The nest of the horned lark may be stumbled upon anywhere on the open prairie. It is a slight affair,—merely a shallow depression in the ground, lined with a few dried grass stems. The eggs are four or five in number, measuring nearly an inch in length by about three-fifths in breadth; they are very variable in contour. The colour is well adapted to concealment in the gray-brown nest, being nearly the colour of the withered materials upon which they rest, thickly and uniformly dotted with light brown. The eggs and young birds, like those of other small species nesting on the ground in this region, often become the prey of the foxes, badgers and weasels, if not also of the gophers. (*Coues.*) Numbers of nests were obtained and examined in a wagon trip of 500 miles in 1895 and all were of the same character. The nest was always a small hole in the ground lined with dried grass and contained from two to four eggs. The latter seemed to be the usual number. (*Macoun.*)

474*g*. **Streaked Horned Lark.**

Otocoris alpestris strigata HENSH. 1884.

British Columbia(?) (*Dwight.*) West of Coast range; at Port Simpson, by W. B. Anderson; also at Burrard inlet. (*Fannin.*) Spring and autumn migrant through the valley of the lower Fraser; breeds on mountain tops above timber line. (*Brooks.*) Not credited to British Columbia by Oberholser.

474*i*. Dusky Horned Lark.

Otocoris alpestris merrilli DWIGHT. 1890.

In summer to southern British Columbia. Specimens examined from Chilliwack, Kamloops, Osoyoos, Ashcroft and Sumas lake. (*Oberholser.*)

Specimens of this form in breeding plumage have been examined from Ashcroft and Kamloops, B.C.; non-breeding from Chilliwack. (*Dwight.*) Observed only in the interior at favourable localities. A few pairs were found on a mountain near Ashcroft, B.C., in July and were doubtless breeding. (*Streator.*) This form was found breeding at Spence Bridge and ten miles south of Kamloops, B.C., by some alkali ponds in June, 1889; one specimen, a young male, was taken June 24th at Kamloops, B.C. (*Spreadborough.*) Taken at Chilliwack, B.C. (*Brooks.*)

474*k*. Hoyt Horned Lark.

Otocoris alpestris hoyti BISHOP. 1896.

In summer, British America from the west shore of Hudson bay to the valley of the Mackenzie river north to the Arctic coast and south to Lake Athabaska. Breeding birds of this form have been examined from Fort Resolution and Big island, Great Slave lake; Arctic coast east of Fort Anderson and Franklin bay; Depot island; Fort Chipweyan, Lake Athabaska; Grand rapids of the Saskatchewan; and Fort Churchill, Hudson bay and Cape Eskimo 50 miles north of Churchill. Non-breeding birds, Calgary, Alberta; and from Indian Head, Sask. (*Oberholser.*) Common everywhere on the Barrens north to Aylmer lake, 1907. (*E. T. Seton.*)

Some references given under other forms should doubtless go here.

FAMILY XL. CORVIDÆ. CROWS, JAYS, MAGPIES.

CXCII. PICA. BRISSON. 1760.

475. American Magpie.

Pica pica hudsonia (SAB.) JORDAN. 1884.

An accidental visitant at Montreal. A magpie was shot at Chambly, twenty miles southeast of Montreal, about the year 1883.

(*Wintle.*) I have known several to be taken at Kingston, Ont.; occurs regularly and is probably a resident along the east coast of Lake Superior; one was seen at Port Sydney, Muskoka district, by Mr. Kay, in the summer of 1898. (*J. H. Fleming.*) On March 12th, 1898, Charles M. Clarke of Kingston, Ont., observed a magpie near Odessa, and since that date two specimens have been shot and sent to the taxidermist. (*C. H. Clarke, M.D.*, in *The Auk*, Vol. XV., 274.) No magpies were seen in the Red river region, where, if occurring at all, I doubt their presence as far east as the river itself. During the second season, however, they were very frequently noticed at various points on the upper Missouri and Milk rivers, and thence to the Rocky mountains. On the 1st of July newly fledged birds were taken near the mouth of Milk river, and at the Sweetgrass hills, during the first week in August, imperfectly plumaged individuals, a little over a foot long, were noticed. (*Coues.*)

This species was formerly quite common in most parts of Manitoba and eastern Saskatchewan, but of late years have only been noted as stragglers. (*E. T. Seton.*) Very rare at Aweme, Man. Used to breed about 20 miles from here but has not been seen for some years. (*Criddle.*) Our only evidence of the occurrence of this bird in Saskatchewan is contained in the following quotation from Dr. Bishop: "I found the deserted nest of a magpie about 8 feet up in a clump of willows in the Big Stick timber on July 19th. Dwight climbed up high enough to see that it was domed." (*A. C. Bent.*) This bird is plentiful on the interior prairies of British America but only a few stray individuals pass eastward of Lake Winnipeg. It does not entirely quit the Saskatchewan plains even in winter, but is much more frequent in summer. (*Richardson.*) Rare; only two noted and one male shot in five years, near forks of the Saskatchewan. (*Coubeaux.*) On May 6th, 1892, one was seen at Indian Head, Sask., and another killed by an Indian; in April, 1894, specimens were seen at Medicine Hat, Sask.; in May, 1895, a few were seen at the forks of Old Wives creek and nests were found in the trees up both the west and south forks; one was seen at the crossing of Frenchman river on June 22nd; also at East End Post and Farwell creek, where it breeds; it was also common on Lee creek, near Cardston, and at Waterton lake, Rocky mountains, Alta.; common about the falls in Crow

Nest pass, and south of Calgary, Alta,; occasionally seen in winter at Banff, Rocky mountains; seen in numbers at Revelstoke, B.C., in March, and ten miles south of Kamloops in June, 1889, but not seen in April or May; a few specimens were seen on the mountains at Spence Bridge, B.C., and at Agassiz in 1889; observed at McGuire's ranch, August 20th, near Chilliwack, B.C., and common at Huntingdon and Chilliwack, in the fall of 1901; observed a pair at Elko, B.C., May, 1904; in 1905 a few were breeding near Midway, B.C., and at Lake Osoyoos young were able to fly by June 1st.; common along the Similkameen river and at Penticton, B.C. (*Spreadborough.*) On west side of mountains north of Lewes and Pelly rivers. Not seen in the Mackenzie river valley. (*Ross.*) Found common everywhere; breeds about Ashcroft, B.C. (*Streator.*) An abundant resident; breeds east of Coast range; west only during winter; a rare straggler on Vancouver island. (*Fannin.*) Common in lower valley of the Fraser; arrives in August and leaves in April. A tolerably common winter resident in Cariboo, B.C.; an abundant winter resident at Lake Okanagan, B.C. (*Brooks.*) Well scattered over the interior but nowhere so common as in the Okanagan valley near Vernon, B.C. (*Rhoads.*) At Kaluk, on Kadiak island six specimens were taken between October and December, 1897. They were very common and fed on dead fish. (*Grinnell.*) This bird was in all localities visited in Alaska and it is resident wherever found. (*Figgins.*) Seen at many places on the base of the Alaska peninsula. (*Osgood; Anderson.*) The miners at Sunrise City, Cook inlet, Alaska, told us that magpies had been seen in the vicinity frequently, but we did not observe them there or at any other point on the inlent. Specimens were taken in Graham harbour by Townsend in 1892. (*Osgood & Heller.*)· This species is an abundant resident along that portion of the coast-line extending from the Shumigan islands east and south. It is abundant on Kadiak island and in the vicinity of Sitka. North of the Alaskan mountains it is comparatively rare and has been taken at Fort Reliance on the upper Yukon almost on the Arctic circle. (*Nelson.*) Several traders from the upper Yukon district reported this species to be not rare in the neighbourhood of Fort Yukon and rather more common farther up the river. (*Turner.*)

Breeding Notes.—Two nests of this species were found in green ash-leaved maple a little below the forks of Old Wives creek, Sask., June 1st, 1895. Neither contained eggs. Nest quite large, nearly two feet high. Base of nest built of coarse sticks, then lined on the inside with about an inch of clay, this cup being at least eight inches across. This is afterwards lined to a depth of two to four inches with fine rootlets and small twigs of willow. The whole covered with a canopy of coarse sticks, leaving a hole large enough for the bird to enter and leave without injuring the tail. (*Macoun.*) Breeding in willow thickets at Penticton, B.C. (*Spreadborough.*)

CXCIII. CYANOCITTA. Strickland. 1845.

477. Blue Jay.

Cyanocitta cristata (Linn.) Strickl. 1845.

A summer migrant in Newfoundland, but not common. (*Reeks.*) Common resident in Nova Scotia. (*Downs.*) Frequently seen towards spring in Cumberland co., N.S. (*C. H. Morrell.*) Common resident at Sydney, Cape Breton island. (*C. R. Harte.*) Common resident in Nova Scotia. They are great destroyers of eggs and young birds. (*H. F. Tufts.*) Rather common at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; one pair seen at Brackley point, Prince Edward island, June 23th, 1888. (*Macoun.*) A small flock was seen at Plaster cove near Port Hawkesbury, Cape Breton island, but none elsewhere. (*Brewster.*) Not abundant on Prince Edward island, and only occasionally met with. (*Dwight.*)

An abundant resident in New Brunswick. (*Chamberlain.*) Common in the Restigouche valley, N.B. (*Brittain & Cox.*) Taken at Beauport; common in Quebec. (*Dionne.*) Abundant everywhere, but extremely numerous at Hamilton's farm in August, 1858, Argenteuil co., Que. (*D'Urban.*) Transient visitant at Montreal, but common. I have observed this jay here in March, May, June, September, October, November and December, and it is likely that a few winter in the district. (*Wintle.*) Permanent resident at Scotch Lake, York co., N.B. They are very destructive to eggs and young birds, but very shy about their own nests, and during their nesting season, May 20th—July 20th, they are very quiet. (*W. H. Moore.*)

A common and permanent resident in the Ottawa district; more common in summer. (*Ottawa Naturalist*, Vol. V.) Common in winter along the St. Lawrence, a few breeding. I have seen the nest in the counties of Leeds and Renfrew. The eggs are laid about the middle of May. I observed this bird breeding on the Magdalen islands. (*Rev. C. J. Young.*) Resident at Toronto, Ont., sometimes abundant; one of the most abundant resident birds in the Parry Sound and Muskoka districts. (*J. H. Fleming.*) Common at Missinabi, Ont., June, 1904. (*Spreadborough.*)

Not seen west of Pembina where it was abundant. (*Coues.*) This is a tolerably common summer resident in all the wooded parts of Manitoba, many retire to the thick woods in winter. (*E. T. Seton.*) Several individuals were seen in the groves of *Quercus macrocarpa*, at West Selkirk, Manitoba. (*Preble.*) This very handsome jay visits the Northwest Territories in summer up to lat, 56°, but seldom approaches Hudson bay. (*Richardson.*) Taken at Fort Churchill, Hudson bay. (*Dr. R. Bell.*) I saw in the post residence near Chemawawin, Grand rapids of Saskatchewan, a mounted specimen of this species, which had been killed by an Indian and mounted by Mrs. King, the wife of the postmaster. (*Nutting.*) Abundant resident in Manitoba and in 1906 was noted everywhere along the G.T.P. Ry. west to Edmonton, Alta. (*Atkinson.*) Not an uncommon resident but more frequently seen in winter along the wooded banks of the Saskatchewan and in the well wooded parts of the prairie. (*Coubeaux.*) Not rare around Athabaska Landing, May 22nd, 1888, and up the Athabaska to Lesser Slave river; one specimen was taken three miles up the Clearwater river from Fort McMurray in lat, 56° 30′; said to be quite common around Isle à la Crosse lake and to winter there. (*J. M. Macoun.*) One observed, June 8th, 1897, at Edmonton, Alta., eating a young bird; the only one seen; a pair observed at the mouth of Lesser Slave river, Alta., in 1903. (*Spreadborough.*)

Breeding Notes.—Found nesting in a hemlock tree near Beechwood, Ottawa. The nest was composed of sticks lined with weeds, grass and down. Eggs four, clay colour with brown spots. (*G. R. White.*) Common resident at Aweme, Man., nesting in bushes and trees from 6 to 20 feet from the ground. (*Criddle.*)

478. Steller Jay.

Cyanocitta stelleri (GMEL.) STRICKL. 1845.

This species was common in the vicinity of Hastings and Agassiz, B.C., west of Coast range in May, 1889; abundant around Chilliwack and Huntingdon, B.C., in the summer of 1901; common along the Hope trail and Skagit river, B.C., in 1905; a very common resident throughout Vancouver island, nesting late in April. (*Spreadborough.*) An abundant resident east and west of the Coast range; breeds both on the island, and on mainland of British Columbia. (*Fannin.*) Quite common resident in the lower Fraser valley, B.C. (*Brooks.*) Found only on the coast and west of the Coast range. (*Rhoads.*) Common along the edge of the timber near the shore wherever I landed around Sitka, Alaska. (*Grinnell.*) Several specimens were taken by C. H. Townsend at Graham harbour, Cook inlet, Alaska. We did not see it farther up the inlet in Turnagain Arm. (*Osgood & Heller.*) Osgood found the remains of a Steller jay in the woods at Haine Mission, Lynn canal. (*Bishop.*) The specimens collected by Figgins at Homer and Sheep creek, Alaska, and by Anderson at Seldovia, described by Chapman as a new subspecies, *C. stelleri borealis*, are referred to *C. stelleri* by the A. O. U. Committee.

478c. Black-headed Jay.

Cyanocitta stelleri annectens (BAIRD) RIDGW. 1880.

A specimen of this form was shot in the Rocky mountains by Mr. Drummond about lat. 56°. (*Richardson.*) This species was met with only high up on the mountains near Ducks, B.C. (*Streator.*) East of Coast range and in Rocky mountain districts. (*Fannin.*) This species was taken in the Selkirk mountains at Glacier in August, 1885; they were then numerous. Very early in April, 1890, when the snow was on the ground they were in large flocks; afterwards they scattered and retired to the mountains at Revelstoke, B.C., to breed; one family of them was seen at Robson on the Columbia river, June 19th, 1890. Of the specimens taken, some approach the long-crested jay, having the white spot over the eye quite large and a blue and white frontal patch. Observed at Trail and Waneta, B.C., on the International Boundary in the summer of 1902, not com-

mon; common around lumber camps at Fernie, B.C., in 1904; one seen at Midway, B.C., April, 1905, but common later and breeding at Sidley, west of Midway; only a few observed at Penticton, B.C., in April, 1903. (*Spreadborough.*) Only once taken at Chilliwack, B.C.; a common winter resident in Cariboo, B.C.; common winter resident at Lake Okanagan. (*Brooks.*) East of Coast range and in Rocky mountain districts of British Columbia. (*Fannin.*) While many of the interior specimens are intermediate, all are more referable to *annectens* than to *stelleri.* (*Rhoads.*)

478*d*. Queen Charlotte Jay.

Cyanocitta stelleri carlottæ OSGOOD. 1901.

Queen Charlotte islands, British Columbia.

Type from Cumshewa inlet, Moresby island, Queen Charlotte islands, B.C., taken June 17th, 1900, by W. H. Osgood and E. Heller.

Not uncommon at Skidegate, Queen Charlotte islands, August, 1895. (*Kermode.*) One specimen taken at Howkan, Prince of Wales island, Alaska. (*Ridgway.*)

CXCIV. PERISOREUS BONAPARTE. 1831.

484. Canada Jay.

Perisoreus canadensis (LINN.) BONAP. 1838.

Common all the way from Missinabi, on the Canadian Pacific railway, down the Moose river, and through Ungava to Ungava bay in 1896, and in 1904 north to Cape Henrietta Maria on the west coast of Hudson bay. (*Spreadborough.*) An abundant resident in Nova Scotia. (*Downs.*) A common winter resident in Cumberland county, N.S.; very fearless, coming about the buildings for scraps; I saw birds with grass in their bills late in March; they evidently nest in April. (*C. H. Morrell.*) A few observed at Baddeck, Cape Breton island. (*F. H. Allen.*) A common resident at Sydney, Cape Breton island, but could find no one who had ever seen a nest. (*C. R. Harte.*) Not uncommon in back districts in Nova Scotia. (*H. F. Tufts.*)

Abundant resident in New Brunswick. (*Chamberlain.*) Not uncommon in the Restigouche valley, N.B. (*Brittain & Cox.*) Abundant on Anticosti where it is a resident. (*Brewster.*) Remains all the year at Lake Mistassini in northern Quebec. (*J. M. Macoun.*) Taken at Beauport; a common resident in Quebec. (*Dionne.*) Seen only in the woods in summer; approaches the settlements in Grenville, Que., in October. (*D'Urban.*) Transient visitant ; scarce in the Montreal district; this jay visits us from the north in the autumn, but I have met with them in the spring of the year. (*Wintle.*) Permanent resident at Scotch Lake, York county, N.B.; but becoming scarce. Have never found a nest of this species, but have seen them carrying nest material in the latter part of March. They took wool and straw from robin's and cedar bird's nests. (*W. H. Moore.*)

This species rarely visits the immediate neighbourhood of Ottawa, though common in the hills to the north of it. (*Ottawa Naturalist*, Vol. V.) Noted at several places near Ottawa, Ont., in 1903–4. First seen September 28; by October 13 they were quite near Ottawa, and on October 15 I saw three on the driveway in the heart of the city. (*Rev. G. Eifrig.*) Common along the Ottawa in county of Renfrew near the lumber camps. It breeds very early in spring. I have seen one as far south as the county of Leeds, near Westport, Ont. During the winter of 1905 it was quite common in the vicinity of Madoc, Ont., one pair remaining so late as April 22, which led me to believe that they did not go far north to breed. (*Rev. C. J. Young.*) A specimen of this species was taken at Aylmer, Ont., November 9, 1901. (*J. H. Ames.*) In the winter of 1839-40 a considerable migration of this species occured at Toronto, Ont. There are no further records till October, 1904, when another migration visited southern Ontario and a number of birds were taken at Toronto and other points on Lake Ontario. Common in the Parry Sound district; reported only as a winter resident in Muskoka by Mr. Kay. (*J. H. Fleming.*) Found very abundant at Whitney, Ont., near Algonquin park, in the fall and winter of 1898. (*J. Hughes-Samuel.*) Reported from North Bruce, but not reported from the London district. (*W. E. Saunders.*)

Fort Churchill, Hudson bay. (*Clarke.*) This species was reported at Norway House, Keewatin, and was seen nearly every day from there to York Factory; specimens were taken on the Echimamish,

at Oxford House and at York Factory; several were seen at Fort Churchill. (*Preble.*)

A common resident in wooded sections, especially among evergreens, in Manitoba; it becomes more abundant in the northern parts of the province. Abundant everywhere to the edge of the woods in 1907, but not seen on the Barrens. (*E. T. Seton.*) Abundant at the Grand rapids of the Saskatchewan. (*Nutting.*) This bird comes to the Saskatchewan as soon as the winter is here and is then seen in numbers everywhere. (*Coubeaux.*) Abundant all over the interior north of the Saskatchewan. (*J. M. Macoun.*) Tolerably common in spruce woods in Manitoba. (*Criddle.*) Abundant resident in the wooded districts in Manitoba. (*Atkinson.*) On May 11, 1892, two individuals were seen at Indian Head, Sask.; after this no others were seen. Observed three April 26, 1897, at Edmonton, Alta.; tolerably common there. A farmer near Red Deer, Alta., found a nest with eggs in a hollow tree the first week in March; another farmer while cutting wood near Edmonton found a nest with eggs in a spruce tree the first week in March; Abundant from mouth of the Lesser Slave river to Peace river, Alta., in 1903. (*Spreadborough.*) This species inhabits the wooded districts from lat. 56° to eastern Canada. (*Richardson.*) North on the Mackenzie to Lapierre House; abundant. (*Ross.*) Tolerably numerous in the wooded country, even to its northern and eastern limits, but none were observed by us on the "barrens" proper, west or east of Horton river, nor on the Arctic coast. (*Macfarlane.*) From the head waters of the Yukon to the mouth of the Tanana river occur birds which are almost typical representatives of the jay found in British America. (*Nelson.*)

Breeding Notes.—A few pairs nest in Saskatchewan and Alberta. I have a beautiful nest and four eggs that were collected by Dr. George near Innisfail, Alberta, March 5, 1899. The nest was built in a willow seven feet from the ground and is a bulky, compact nest with thick felt-like walls of wool, moss, feathers and hair. Dr. George remarked that at the time the eggs were collected the thermometer registered several degrees below zero. On March 10, 1900, Mr. John Wright found a nest and four eggs at Horn hill, Alberta. This nest was built in a willow and is a deep cup-shaped nest, very warm and well lined, and has to be

as the young nestlings are often exposed to 15° below zero. On March 18, 1900, Dr. George found a nest containing one egg. This nest was also found in a willow. It will be seen, therefore, that this bird is the earliest breeder of all Canadian birds, having eggs in Alberta in the middle of March, at a time when the thermometer registered below zero. I have yet another set of eggs and nest that were collected by Mr. Hugh Richardson in Saskatchewan, April 2, 1896. (*W. Raine.*)

484*a*. Rocky Mountain Jay.

Perisoreus canadensis capitalis BAIRD. 1873.

Only seen in the Rocky mountains at lat. 49°, where, however, it was common and doubtless bred. The specimens secured in this locality show the restricted dark areas of the head, upon which the variety *capitalis* is based. (*Coues.*) Observed on Sheep mountain, Waterton lake, Rocky mountains, in July, 1895; quite common and breeding at Banff, Rocky mountains, in the summer of 1891; common high up in the Rocky mountains from Moose mountain, south of the Bow river pass to Crow Nest pass in July, 1897 ; seen at Pass creek, near Robson, B.C., and was common in the Gold range, B.C., in 1889 ; on June 6, 1890, a young one was shot at Deer park, Lower Arrow lake, B.C. ; one pair seen, on the mountains between the North Thompson river and the Bonaparte at an altitude of 4,500 feet ; observed near Cascade, B.C., and on Sophie mountain, altitude 4,000 feet, on the International Boundary, in the summer of 1902; observed several at Elko, B.C., May, 1904. (*Spreadborough.*) An abundant winter resident in Cariboo, B.C.; I tried hard to find nests but failed; I believe the eggs are laid about March 25th; common in winter at high elevations at Lake Okanagan, B.C. (*Brooks.*) I noted these jays at Lac La Hâche, Bonaparte, Vernon, Nelson and Field in British Columbia. (*Rhodes.*)

484*b*. Alaskan Jay.

Perisoreus canadensis fumifrons RIDGW. 1880.

The only specimen brought home of this short-billed jay was killed on the roof of the dwelling house at Fort Franklin. (*Richardson.*) This form is the only *Perisoreus* found throughout the Sitkan

and Kadiak region, and thence north along the region bordering the Behring sea coast and up the wooded interior. Specimens have been taken at so many points on Behring sea that it appears wherever alder bushes occur to afford shelter. (*Nelson.*) This bird rarely occurs at St. Michael, two specimens only being procured during three and one-half years' residence. Most of my specimens were obtained at Fort Yukon, Anvik and Nulato on the Yukon river. (*Turner.*) The Alaskan jay was observed in the vicinity of spruce timber everywhere in the valley of the Kowak, Kotzebue sound, Alaska, from the delta eastward. It was resident throughout the year, and was the most noticeable and familiar bird about camp, especially in winter. (*Grinnell.*) Occasionally seen in Cook inlet, Alaska. One morning a small flock visited our camp in the mountains near Hope. A few were also seen at Tyonek. (*Osgood & Heller.*) We first met this bird at Log Cabin, noted it also at Bennett and Caribou Crossing, B.C., and found it common from Lake Marsh to Circle City, Alaska, generally in families. Between White river and Circle City it was less common than further up the Yukon. I saw one 15 miles above Fort Yukon, heard several at Hendrick station, August 25th, and saw one at St. Michael, September 18th. (*Bishop.*) Fairly common in the timber belt, Kenai peninsula, Alaska. (*Figgins.*) Sheep creek and Moose camp, Alaska. (*Anderson.*) Noted at many places in the Alaska peninsula. (*Osgood.*)

Breeding Notes.—Toward spring the jays became remarkably reclusive, and their visits around camp were less and less frequent. I suspected that by the middle of March they would nest, and I consequently spent much time in fruitless search. On the 20th of March, while out snowshoeing across the valley, I happened to see a pair of jays flying towards a tract of spruces, and as had become almost habitual with me under such incentive, I followed them up. I did not see the birds for some time, until finally I saw a jay with a large bunch of white down in its bill, flying back along the timber. The other bird was accompanying it, following a little behind. I lost sight of them among the distant trees, but by following the general course of their flight and peering into all the thicker spruces I chanced to discover the nest. It was ten feet above the snow in a dense young spruce growing among a clump of taller ones on a knoll. It was as yet a flimsy affair, consisting of dry spruce twigs, with bits of down and feathers, showing through from beneath. Although I

did not disturb the nest in the least, a visit two weeks later found it covered with snow and apparently deserted. On April 10th, among ten jays, secured about twenty miles down the Kowak from our winter camp, was one female, which contained in the oviduct, a full-sized though unshelled, egg. Not until May 13th, however, did I finally find an occupied jay's nest, and its discovery then was by mere accident. It was twelve feet up in a small spruce amongst a clump of larger ones on a low ridge. There were no "tell-tale sticks and twigs on the snow beneath," as Nelson notes, and in fact nothing to indicate its location. The nest rested on several horizontal or slightly drooping branches against the south side of the main trunk. The foliage around it was moderately dense, so that it could be seen from the ground, though only as an indistinct dark spot. The bird was sitting on her nest when I discovered it. Her head and tail appeared conspicuously over the edge of the nest, and she remained on until I had climbed up within an arm's length of her. She then left the nest and silently flew to a near-by tree where she was joined by her mate. They both remained in the vicinity, but ostensibly paid little attention to me. They followed each other about playfully, uttering low conversational notes. The male would try to approach the female, vibrating his wings and striking various coquettish attitudes, but the latter would quickly turn upon him, as if to repel his advances at such a serious time. Then both birds would pause for a moment within six inches of each other, with their beaks wide open, and mayhap a snap or two. The nest proper was built on a loose foundation of slender spruce twigs. The walls and bottom consisted of a closely felted mass of black hair-like lichen, many short bits of spruce twigs, feathers of ptarmigan, and hawk owls, strips of a fibrous bark and a few grasses. The interior is lined with the softest and finest grained material. The whole fabric is of such a quality as to accomplish the greatest conservation of warmth, which certainly must be necessary where incubation is carried on in below zero weather. (*Joseph Grinnell.*)

484*e*. **Labrador Jay.**

Perisoreus canadensis nigricapillus RIDGW. 1882.

Peninsula of Labrador, north to Davis strait; island of Newfoundland. (*Ridgway.*) Locally common in northeastern Labrador

especially as far north as Port Manvers. (*Bigelow.*) Coastwise and interior, especially abundant; resident and breeds at Fort Chimo, Labrador. (*Packard.*) Common on Newfoundland and remains throughout the year. (*Reeks.*) Abundant and very tame, Humber river, Newfoundland, 1899. (*Louis H. Porter.*)

BREEDING NOTES.—I have a nest and four eggs of this bird that were taken at Hamilton inlet, Labrador, March 20th, 1894. The nest was built in a larch tree and is a beautiful structure of interlaced twigs, the nest proper being a compact woven felt-like structure of fur, hair and feathers. (*W. Raine.*) A nest taken by Mr. A. P. Low at Rigolet, Hamilton inlet, Labrador, 25th March, 1894, is quite a bulky affair. The outside is chiefly made up of dead twigs chiefly of tamarac (larch) with a few of white spruce. The inside is of down, feathers, hair, fur and strips of the inner bark of willow felted together.

485. **Oregon Jay.**

Perisoreus obscurus (RIDGW.) SHARPE. 1877.

An abundant resident throughout the province. (*Fannin.*) Common resident on mountains above Chilliwack, B.C. (*Brooks.*) In May, 1887, this species was found breeding on the summit of Mount Erskine, Salt Spring island, Gulf of Georgia, B.C. (*Macoun.*) An abundant resident throughout British Columbia. (*Fannin.*) Common along the Hope trail and Skagit river, B.C.; also on the mountains between the Skagit river and Chilliwack lake. (*Spreadborough.*) This species is not numerous on Vancouver island and may be said to be rare in summer on the coast. (*Rhoads.*)

485*a*. **Gray Ganada Jay.**

Perisoreus obscurus griseus RIDGW. 1899.

British Columbia, Washington and Oregon. (*Ridgway.*) This species was common on the mountain sides at Chilliwack lake, B.C., in July, 1901. Only one specimen taken. (*Spreadborough.*)

CXCV. CORVUS Linnæus. 1758.

486*a*. Northern Raven.

Corvus corax principalis Ridgw. 1887.

One specimen taken at Peary's headquarters, West Greenland; a fine specimen taken at McCormick bay, West Greenland, by the Relief Expedition. (*Witmer Stone.*) Frequently seen in Ellesmere Land. (*E. Bay.*) Breeds more in south than in north Greenland, and also observed on the east coast; several pairs have been seen on Melville island; a specimen from Beechey island is in the Barrow collection. (*Arct. Man.*) A common resident in southern Greenland. (*Hagerup.*) Locally common in northeastern Labrador; especially so at Port Manvers. (*Bigelow.*) Abundant throughout the whole of Labrador; breeds at Fort Chimo; nearly fledged young seen in nest, May 18th. (*Packard.*) Not common in the interior of Ungava, but found in pairs throughout the country. (*Spreadborough.*) One specimen shot and others seen at Port Burwell, Hudson strait; breeds from Norway House to Fort Churchill. (*Dr. R. Bell.*) A few remain all the year at Cape Prince of Wales, Hudson strait, but the greater number go south in September. (*Payne.*) Found sparingly everywhere in the north. A pair remained throughout the winter in the neighbourhood of Fullerton, Hudson bay. (*A. P. Low.*) Common throughout the year in Newfoundland. (*Reeks.*) Common along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*)

A common resident in Nova Scotia. (*Downs.*) Abundant throughout the year in Nova Scotia. They often kill very young lambs. (*H. F. Tufts.*) Fairly common along the N.E. coast of Cape Breton island. (*Townsend.*) Not common in winter in Cumberland co., N.S.; a pair seen at Shulee and another pair at Partridge island, near Parrsboro. (*C. H. Morrell.*) A common resident breeding on cliffs along the shore near Sydney, Cape Breton island, incubation begun April 22nd, 1901. (*C. R. Harte.*) Occasionally seen at Magaree, Cape Breton island, N.S., in July, 1898. (*Macoun.*) Breeds on the Magdalen islands. (*Bishop.*) A rather rare resident in New Brunswick. (*Chamberlain.*) Rather generally distributed in the Gulf of St. Lawrence but nowhere abundant. (*Brewster.*) One specimen shot at Lake Mistassini, in northern

Quebec, May 30th, 1885. (*J. M. Macoun.*) Taken at Beauport, a rare permanent resident in Quebec. (*Dionne.*) A rare winter resident at Montreal; occasionally visits the city river ice-dump. (*Wintle.*) Rare visitant to the north of Ottawa; occasionally seen near the city. (*Ottawa Naturalist*, Vol. V.) A common bird on the Magdalen islands, breeding in the rocks and occasionally in the larger spruce trees. Rare in the cultivated parts of Ontario. I have seen a pair flying at a great height near Combermere, Renfrew co., in the month of January. (*Rev. C. J. Young.*) At one time abundant along the north shore of Lake Ontario, but they disappeared at a very early date; a common resident in Parry Sound district; rarer in Muskoka. (*J. H. Fleming.*) I met with one or more of these birds daily during a three week's trip to Whitney, near Algonquin park, Ont., in the fall of 1898. (*J. Hughes-Samuel.*) It is probable that none of these now occur in southwestern Ontario except as stragglers. (*W. E. Saunders.*) From Missinabi, Ont., to Cape Henrietta Maria, James bay, in 1904. (*Spreadborough.*) We saw several between Robinson portage and Pine lake, Keewatin, June 28th, and while descending Hill river, July 8th, noticed a pair flying about the face of a high clay bank. Except for one specimen seen at Fort Churchill, July 30th, we did not again note the species. (*Preble.*)

Rare at Aweme, Man., only observed late in autumn or in the winter. (*Criddle.*) An irregular late fall visitor to the Manitoba lakes. A few noted about Portage la Prairie in early winter. (*Atkinson.*) Occasionally observed on the International Boundary, lat. 49°, but no specimens were taken. (*Coues.*) A tolerably common winter visitant; probably nesting in the northern lands. (*E. T. Seton.*) The call of this species was heard and we were told by Mr. McLean that a species of raven was not uncommon at the Grand rapids of the Saskatchewan. (*Nutting.*) A permanent resident on the Saskatchewan, but very scarce, and only seen in winter in the great woods or about them. (*Coubeaux.*) Rare at Aweme, Man., only observed late in autumn or in the winter. (*Cridd'e.*) An irregular late fall visitor to the Manitoba lakes. A few noted about Portage la Prairie in early winter. (*Atkinson.*) Very abundant between Athabaska Landing and Lesser Slave river; an occasional specimen was seen on the Clearwater river, and they were not rare on Methye Portage; common between Methye lake and

Isle a la Crosse; flocking with crows on Buffalo lake. (*J. M. Macoun.*) This well-known bird abounds in the Northwest Territories and visits the remotest islands of the Arctic sea. (*Richardson.*) North on the Mackenzie river to Arctic coast; abundant. (*Ross.*) Abundant everywhere about Great Slave lake. Once saw 28 together on the Barrens. (*E. T.Seton.*) This species is abundant at Fort Anderson and on the lower Lockhart and Anderson rivers ; and although not seen by us there it may possibly breed on the shores of the Arctic sea. (*Macfarlane.*) One specimen was seen at Indian Head, Sask., in May, 1892; others were seen at Medicine Hat in the spring of 1894; observed from the mouth of Lesser Slave river to Island lake, Alta., in 1903; apparently very rare in the Rocky mountains; only one seen at Banff in the summer of 1891; only a pair seen at Revelstoke, on the Columbia river, in May, 1890; a few were seen at Deer Park, Lower Arrow lake, and others at Robson on the Columbia river, in June of that year; observed at Trail, Sheep creek and Coryell, near the International Boundary, B.C., in the summer of 1902; a pair was breeding on a high cliff about two miles from Elko, B.C., May, 1904; one seen west of Midway, B.C., May 16th, 1905; saw three at Penticton, B.C., April, 1903; occasionally seen near Chilliwack in the summer of 1901; very abundant on many parts of Vancouver island, but chiefly at Comox and Nanaimo in June and July; they must breed in the neighbourhood; a few also were seen at Barclay sound, on the west coast of the island. (*Spreadborough.*)

A resident throughout the province, chiefly northward and coastwise; rarer than formerly. (*Fannin.*) Resident. (?) Not common at Chilliwack. The ravens found on the summit of the Coast range, descending to the valley in winter, are much larger than the commoner *sinuatus*, and have a different voice. I have no doubt they belong to the larger sub-species. I shot a female during the winter that was much larger than a male of the other form; a common winter resident in the Cariboo district, B.C.; tolerably common in winter at Lake Okanagan, B.C. (*Brooks.*)

Everywhere throughout the entire territory of Alaska including the shores of the Arctic ocean and Behring sea and the various islands of the latter, this bird is a well known resident. (*Nelson.*) This species is a resident throughout the whole of

Alaska. Near St. Michael it is a resident in summer. (*Turner.*) More or less common all along the base of the Alaska peninsula. (*Osgood.*) One specimen taken at Seldovia, Alaska, July 4th, 1903. (*Anderson.*) An adult specimen was taken at Belkoosky bay, Alaska, July 22nd, 1897. Two specimens were taken at Kadiak island, December, 1897. Ravens were abundant in the Coast range; rare in the Bonaparte valley, at Lake la Hâche, and at Vernon, B.C.; but at Nelson, B.C., they became abundant again. (*Rhoads.*) I saw a pair of ravens at Cape Blossom, Kotzebue sound, Alaska, August 1st, 1898, and several were seen along the lower course of the Kowak later in the month. An abundant and well known scavenger. It congregates about the streets of Sitka and along the beaches with as much familiarity as the black vulture does in the south. I did not learn of its breeding anywhere about Sitka. (*Grinnell.*) Very abundant on Queen Charlotte islands, B.C. Only moderately common in Cook inlet, Alaska. (*Osgood.*) Of all the birds we met with the raven occurred most regularly. It was noted from Wrangell, up the Lynn canal, over the White pass, and down the whole length of the Yukon. (*Bishop.*)

Breeding Notes.—I have a set of six eggs that were taken at Peel river, Mackenzie delta, on April 27th, 1900. The nest was a large structure of sticks and weeds lined with animal fur, and built on top of a spruce tree. (*W. Raine.*)

488. American Crow.

Corvus brachyrhynchus C. L. Brehm. 1822.

Rare in Labrador; only found in southern portions; Stearns reports it from Eskimo river; Verrill records it as common on Anticosti; not known to breed in Labrador. (*Packard.*) A common migrant in Newfoundland. (*Reeks.*) Several seen on Sable island, N.S., in 1904, 1905, 1906 and 1907. (*J. Boutelier.*) A common resident in Nova Scotia. (*Downs; H. F. Tufts.*) Common all winter in Cumberland co., N.S. (*C. H. Morrell.*) Common around the shores of Cape Breton island, 1898; also on the shores of Prince Edward island, 1888. (*Macoun.*) A common resident at Sydney, Cape Breton island. Eggs taken April 15th, 1901. (*C. R. Harte.*) Nowhere have I ever seen crows more abundant and so tame as on

Prince Edward island. (*Dwight.*) An abundant summer resident in New Brunswick. (*Chamberlain.*) Local in the Restigouche valley, N.B. (*Brittain & Cox.*) A rare permanent resident but a common summer one at Scotch Lake, York co., N.B. (*W. H. Moore.*) Abundant and breeding on all the Magdalen Islands. (*Bishop.*) Very common along the shores of the islands in the Gulf of St. Lawrence, migrating on the approach of winter. (*Brewster.*) A common summer resident in Quebec. (*Dionne.*) Plentiful in Argenteuil co., Que,. up to 10th December, a few seen in January, and abundant by the last of February. (*D'Urban.*) An abundant permanent resident at Montreal, not so often seen during the winter months but sometimes appearing in large flocks at Côte St. Paul alongside the railway tracks. (*Wintle.*)

Very abundant in the Ottawa district in summer but scarce in winter.* (*Ottawa Naturalist,* Vol. V.) This bird has become very common in eastern Ontario in recent years. On Wolfe island it has become a pest, destroying many eggs of the smaller birds, and taking young chickens and other birds. I saw a field last October (1900) literally covered with crows; they were as numerous as blackbirds. A few remain along the St. Lawrence all winter, and I have seen them in the coldest weather. (*Rev. C. J. Young.*) Abundant about the settlements in the Parry Sound and Muskoka districts. (*J. H. Fleming.*) Rather scarce in Algonquin park, only a few pairs breeding; common at Missinabi in 1904. (*Spreadborough.*) During the cold weather of February, 1895, at Toronto these birds seemed to suffer severely from the elements combined with the scarcity of food; many becoming so exhausted as to only be able to fly short distances. (*J. Hughes-Samuel.*) A few were seen about Lake Winnipeg and Norway House, Keewatin, and a small number noted nearly every day between Norway House and York Factory. They were common at York Factory, and a few were seen at Fort Churchill, and one 50 miles south of Cape Eskimo. (*Preble.*) A common species on Hudson bay. (*Dr. R. Bell.*)

According to my observation, crows are not very common in the region under consideration (lat. 49°), though I saw a good many along the Mouse (Souris) river. The species occurs, however, along the whole Missouri river. A nest containing five eggs, with the female parent, was secured on Quaking Ash river, June 26th,

1874. (*Coues.*) A common summer resident throughout Manitoba. (*E. T. Seton.*) This crow is seen in the interior of the Northwest Territories in summer only and does not go beyond lat. 55° nor approach within five or six hundred miles of Hudson bay. (*Richardson.*) North on the Mackenzie river to lat. 61°; abundant. (*Ross.*) On the 10th May, 1865, an Eskimo snared the parent bird on a nest which was built on the top of a tall spruce on the lower Anderson river; another was taken near Fort Anderson on 5th May, 1866. (*Macfarlane.*) This species arrived at Indian Head, Sask., before April 1st, 1892, as they were numerous at that date; they were building nests by the 27th and on May 6th I found a nest with five eggs, which was in a willow tree; the nest was made of sticks and lined with dried grass; this species was found in pairs nearly all over Saskatchewan in 1895, wherever there was wood, but none was seen in Alberta until we reached Waterton lake at the base of the Rocky mountains; common at Crane lake, Medicine Hat, Cypress hills, Moose Jaw, and around Old Wives lake and creek, also at Wood mountain; none seen north of Lesser Slave lake in 1903; May 8th, 1894, examined a number of nests at Medicine Hat, Sask., but only found one egg; a few were breeding at Crane lake, June 12th; found a nest with four young ones; at the east end of Cypress hills a few pairs were breeding the last week in June. (*Spreadborough.*) Everywhere abundant from Manitoba west to Edmonton, Alta. (*Atkinson.*) Abundant and surprisingly tame at the Grand rapids of the Saskatchewan; young crows make themselves at home on the houses and in the door-yards at Grand Rapids. (*Nutting.*) This bird is our first harbinger of spring. As soon as the snow begins to melt and show the ground, they arrive, by twos, by threes, by fours, and then in greater numbers, filling the air with their cries, They mate very early and begin to build their nests long before the leaves begin to appear. (*Coubeaux.*) Very numerous at Buffalo lake, near Methye portage, lat. 56°, and at Isle à la Crosse, feeding on dead fish; a few specimens between Red Deer river and Athabaska landing, about a dozen in all. (*J. M. Macoun.*)

Breeding Notes.—The bulk of the crows, which are migrants, begin to arrive here about the 1st of March and commence building nests in April. One nest examined on April 30th, 1882, contained six eggs incubated, and another one, May 24th, 1882, con-

tained younglings, and a nest, May 11th, 1889, had four eggs incubated. They breed in Mount Royal park and all over the island of Montreal. The bulk of the crows in this district migrate south before the month of December. (*Wintle.*) On June 6th, 1884, at Binscarth on the upper Assiniboine, I found a crow's nest in a bluff of poplar trees. It was in a crotch of a large poplar, about 8 feet from the ground, and was one of the most beautiful specimens of bird architecture I ever examined, excluding, of course, all pensile nests. It was a large structure of sticks, twigs and bark strips, with a very deep cavity lined with fine fibres and beautifully finished off with a coating of cow's hair. It contained four eggs. (*E. T. Seton.*) This species frequently nests in firs and spruces near Ottawa. Its nests are built of sticks and twigs, lined with moss, strips of bark and fine grass. Eggs, four to six; green, spotted with blackish-brown. (*G. R. White*). Nests taken on June 2nd, 1895, a mile up the west fork of Old Wives creek, contained four fresh eggs. The base of the nest was of coarse sticks and the inside was lined with the inner bark of ash-leaved maple, in which tree it was built. Other nests were taken in thickets of willow and other brush in many parts of the prairie. (*Macoun.*) March 2nd, 1902, a crow was seen to be carrying nesting material at Fredericton; even at that time migration had hardly begun, this being a bird that had remained in that vicinity all winter. I have found a full set of crow's eggs April 21st. At one time a nest was found and both birds were sitting on the eggs. The cavity of the nest was much larger than ordinarily. Thinking when seeing both birds fly from the nest they might be two females laying in one nest, I climbed and found that the nest contained five nearly incubated eggs. A nest was found here containing ten eggs. (*W. H. Moore.*)

488*b*. California Crow.

Corvus brachyrhynchus hesperis RIDGWAY. 1887.

Western North America from the Rocky mountains to the Pacific coast, except coast district from Strait of Fuca and Puget sound northward; north in the interior to Fort St. James, B.C. (*Ridgway.*) Two or three pairs were noted, mostly near Crane lake, Sask. Bishop says, "an adult male taken at Walsh, July 12th is smaller, with smaller bill than southern California examples of *hesperis*. (*A. C.*

Bent.) Some of the references under *C. brachyrhynchus* probably should go here.

Rather rare along the Columbia flats at Revelstoke, B.C.; heard at Pass creek, Columbia river, B.C.; common at Agassiz and Kamloops, B.C., in 1889; common at Osoyoos lake and Similkameen river in 1905; saw three on the shore of a small lake at Elko, B.C. in 1904; abundant and breeding at Penticton, April, 1903. (*Spreadborough.*) Found breeding at Ashcroft, B.C. (*Streator.*) Common summer resident, east of coast range. (*Fannin.*)

Breeding Notes.—Found a nest May 5th, 1905, at Midway, B.C., in a poplar tree about 8 feet from the ground. It was made of sticks and lined with grass and fine bark from poplar trees. Saw several nests in clumps of willow along Meyers creek on the same day. (*Spreadborough.*)

489. Northwest Crow.

Corvus caurinus Baird. 1858.

Chiefly west of Coast range; very abundant on the coast; resident. (*Fannin.*) Common resident at Chilliwack, B.C. (*Brooks.*) Very abundant from Chilliwack to Huntingdon, B.C., in 1901; a most abundant species on Vancouver island, living the whole year along the coasts of the island and breeding in small spruce and Douglas fir trees; in May, 1887, a colony bred in small spruce on Comox spit. There may be two forms of this western species, but I have never been able to satisfactorily separate them. (*Spreadborough.*) On the west coast crows are abundant. In the interior of British Columbia they are found in diminished numbers. Their habits and voices are essentially the same. (*Rhoads.*) I have two sets of four eggs each that were taken on Vancouver island, May 12th, 1889, by Mr. Fannin. (*W. Raine.*) Not common on Queen Charlotte islands. A flock of about thirty was seen several times near the head of Cumshewa inlet. (*Osgood.*) Bischoff obtained numerous specimens of this little-known bird at Sitka. Dr. Bean also found it abundant at Sitka. (*Nelson.*) Common on all the small islands in the bay at Sitka, Alaska, especially on St. Lazaria island, where the young and eggs of the sea birds constituted its staple articles of food. (*Grinnell.*) Abundant at Seldovia, Alaska. (*Anderson.*)

CXCVI. NUCIFRAGA Brisson. 1760.

491. Clarke Nutcracker.

Nucifraga columbiana (Wils.) Aud. 1834.

British Columbia. (*Lord.*) Abundant summer resident throughout the coniferous forests of the interior. (*Streator.*) A common resident east of the Coast range; west, but very rarely, to Vancouver island; abundant in the pine belts along the Similkameen and along the Cariboo road above Clinton. (*Fannin.*) Resident in the mountains; rarely descending to the valleys. (*Brooks.*) This species was rather common at Banff, Rocky mountains, in 1891, and breeding in the mountains; common in the Crow Nest pass in August, 1897; in the summer of 1885, when the Canadian Pacific railway was being built through the Rocky and Selkirk mountains, this bird was very common around the camps and apparently living on their refuse. (*Macoun.*) Early in the spring of 1890 this species was quite common at Revelstoke, B.C., but soon retired to the mountains; they were common at Deer Park, Lower Arrow lake, Columbia river, B.C., on June 4th, 1890, when fully fledged young were shot; at Robson, B.C., they were abundant on the mountain sides later in the month; observed on all the mountains between Trail and Cascade, B.C., near the International Boundary, in the summer of 1902; rare at Elko in the spring of 1904; in 1905 and 1906 it was common along the International Boundary from Midway west to Chilliwack lake; in May and June, 1889, this species was far from uncommon at Spence Bridge and up the Nicola valley where they seemed to be breeding; observed a few in the mountains at Chilliwack lake, B.C., in July, 1901. (*Spreadborough.*) Common during the winter of 1897-98 at Lake Okanagan, B.C., but entirely absent the next winter; many remained to breed in 1898, and they also bred in 1897; they lay in February. I shot an adult female at Comox, Vancouver island, February 18th, 1904. This is a very rare straggler on Vancouver island. (*Brooks.*) This species extends from the summit of the Coast range to the summit of the Rocky mountains, in British Columbia, in summer. Rare at Clinton and Lac la Hâche, but wintering wherever found. The Indians declare they breed in February and again in July. (*Rhoads.*)

The first specimen of Clarke's crow taken in Alaska was one captured by Bischoff at Sitka; only two other Alaskan records are

known, one of a specimen taken at Nushagak, Bristol bay by J. W. Johnson and the other of a single specimen collected by Lieut. G. M. Stoney in the valley of the Kowak river. (*Grinnell.*)

CXCVII. **CYANOCEPHALUS** BONAPARTE. 1842.

492. **Pinon Jay.**

Cyanocephalus cyanocephalus (WIED.) STEJN. 1884.

Rocky mountains, west to the Cascade range; and from British America south to California. (*A. O. U. Check-list.*) We have no records of this bird. It will likely be found in the country about Lake Okanagan, B.C.

CXCVIII. **STURNUS** LINNÆUS. 1758.

493. **Starling.**

Sturnus vulgaris LINN. 1758.

A single specimen sent by Holbœll to Copenhagen. (*Arct. Man.*)

FAMILY XLII. **ICTERIDÆ.** BLACKBIRDS, ORIOLES, &C.

CXCIX. **DOLICHONYX.** SWAINSON. 1827.

494. **Bobolink.**

Dolichonyx oryzivorus (LINN.) SWAINS. 1827.

Summer resident on Cape Breton island; but rare. (*Dwight.*) Common in summer; breeds in all the marshes in Nova Scotia. (*Downs.*) One seen at North Sydney, Cape Breton island, May 24th, 1901; common on the meadows at Amherst, N.S. (*C. R. Harte.*) Abundant in summer along the Cornwallis valley, N.S., and locally elsewhere. (*H. F. Tufts.*) A common summer resident in New Brunswick. (*Chamberlain.*) An abundant summer resident in suitable places at Scotch Lake, York co., N.B. (*W. H. Moore.*) A common summer resident in Quebec. (*Dionne.*) An abundant summer resident around Montreal. (*Wintle.*)

A common summer resident at Ottawa; breeds on the Experimental Farm. (*Ottawa Naturalist,* Vol. V.) Summer resident at

Toronto, Ont. One of the species that is finding its way northward; it is only a new arrival in the Muskoka and Parry Sound districts. I saw a female at Emsdale in May, 1899; she was seen later in the summer with a male and a brood of young. Mr. Taverner saw the first one at Beaumaris in August, 1897, and reported them as increasing in 1898. (*J. H. Fleming.*) In spite of the slaughter of these birds in the rice fields it is yet common in the London district; it is more rare in the Bruce peninsula, and a few were noted on Manitoulin island in 1880. (*W. E. Saunders.*)

Generally distributed and breeding abundantly in all the meadows about Manitoba and observed in considerable numbers as far west as Touchwood hills, Sask. (*Atkinson.*) Formerly breeding in great abundance at Aweme, Man., but now only noted as a migrant though it breeds in a bog south of Sewell and also in marshy places near Rounthwait. (*Criddle.*) Saw one bird at Crane lake, Sask. (*A. C. Bent.*)

At Pembina in June, bobolinks were breeding in large numbers on the open prairie adjoining the Red river. The ground near the river has a meadowy character, which seems exactly to suit them, and they were evidently perfectly at home. On lat. 49° I traced the species westward to the Rocky mountains, where it was not uncommon in August about Chief Mountain lake. (*Coues.*) A very common species throughout the prairie portions of Manitoba. (*E. T. Seton.*) Quite common at Indian Head in eastern Saskatchewan in the fall of 1891, as well as in May of the next year; west of that it must be rare as only a few specimens were noted at the east end of the Cypress hills in June, 1894; none were seen in 1895 until Lees creek was reached in southern Alberta. (*Spreadborough.*) Uncommon and seen just now only about Duck lake and Carlton between the forks of the Saskatchewan. (*Coubeaux.*) This bird reaches its northern limit about lat. 54° and does not seem to go very far north of the Saskatchewan. (*Richardson.*)

Breeding Notes.—Nest near stone quarry at Ottawa, Ont., built on the ground, composed of grass and lined with fine grass. Eggs four, bluish white spotted with dark chocolate. (*G. R. White.*) Very common about Kingston, Ont. Breeds abundantly on Wolfe, Simcoe and Amherst islands, as well as on the main shore. Is a late breeder; I have found eggs as late as July 1st, but these, of course,

would be a second laying. After the middle of August none are seen. (*Rev. C. J. Young.*) Breeds commonly in Manitoba where I have found several nests containing five eggs each. (*W. Raine.*)

CC. **MOLOTHRUS** SWAINSON. 1831.

495. Cowbird.

Molothrus ater (BODD.) GRAY. 1870.

Apparently not noticed in Nova Scotia.

A rare summer resident in New Brunswick. (*Chamberlain.*) Taken at Beauport; not a common summer resident in Quebec. (*Dionne.*) A common summer resident around Montreal; breeds in many small bird's nests; I have observed a nest of the yellow warbler rebuilt on top of the first nest which contained the eggs of a cowbird. (*Wintle.*) A common summer resident at Ottawa, Ont., laying in many small bird's nests. (*Ottawa Naturalist,* Vol. V.) Very abundant in Ontario, arriving in April and staying until October. It congregates in small flocks through the summer. I have seen its eggs in May, June and July; in the latter month usually in the nest of the song sparrow, or wood pewee. I have seen this bird in the winter in company with English sparrows. In December, 1889, I saw two at Lansdowne, Ont.; one of these remained with a flock of sparrows all the winter. This was the same winter I observed red-headed wood-peckers, the weather being unusually mild, and there being only two weeks of sleighing along the St. Lawrence all that winter. (*Rev. C. J. Young.*) Abundant summer resident at Toronto, Ont. I first saw this bird at Emsdale, Muskoka district, May 26th, 1899; about a dozen of both sexes; Mr. Kay gives 1889 as the year of their first appearance at Gravenhurst ; Mr. Taverner reported them as common at Beaumaris on April 22nd, 1898. (*J. H. Fleming.*) Common all over western Ontario. (*W. E. Saunders.*) One seen at Missinabi, Ont., June, 1904. (*Spreadborough.*) I have nowhere found the cowbird more abundant than it is in summer throughout the region surveyed by the commission. Even were the birds not seen ample evidence of their presence in numbers would be found in the alien eggs with which a majority of the smaller birds of the country were pestered. Scarcely any species, from the least flycatcher and the clay-coloured bunting up

to the towhee and kingbird, escapes the infliction. (*Coues.*) An abundant summer resident throughout the whole prairie region; seen at Slave River delta in 1907. (*E. T. Seton.*) Extremely common throughout the whole of Saskatchewan and dropping their eggs in all kinds of small birds' nests in the summer of 1894. In 1895, the prairie was traversed in a westerly direction for 500 miles; in all this distance it was a common object around our camps; very abundant on all the prairies in the Peace River district in 1903; this species is rare in the mountains, only two males were taken at Canmore, Rocky mountains, in 1891; but it was common at Edmonton, Alberta, and southward in the foothills to the Crow Nest pass; two specimens reached Revelstoke in company with a yellow-headed blackbird on May 25th, 1890, and later in June a number of males were seen along the beach at Deer Park, Arrow lake, Columbia river, B.C.; observed one specimen at Huck's ranch, Chilliwack river, B.C., August 18th, 1901. (*Spreadborough.*) Abundant summer resident and breeds throughout the region between the forks of the Saskatchewan in company with the blackbird. (*Coubeaux.*) Two pairs seen at Fort McMurray, at the forks of the Clearwater and Athabaska rivers in lat. 56° 30′. (*J. M. Macoun.*) This bird arrives in the northwest with the blackbirds and ranges to lat. 60°. (*Richardson.*) From Vancouver island to Okanagan, B.C. (*Fannin.*) Tolerably common east of, and a straggler west of, the Coast range. (*Brooks.*)

Their nesting habits are such that almost every small bird becomes a foster parent for them except the tyrant flycatcher, which far from being the aggressive bird he is supposed to be is only a successful defender.

CCI. **XANTHOCEPHALUS** BONAPARTE. 1850.

497. Yellow-headed Blackbird.

Xanthocephalus xanthocephalus (BONAP.) JORDAN. 1884.

One specimen obtained at Nevertalik, Greenland, September 2nd, 1820. (*Arct. Man.*) Taken at Godbout, Quebec, in September, 1878. (*Dionne.*) Accidental at Toronto, Ont.; one record, a male taken about 1885; this bird is now in my collection. (*J. H. Fleming.*) A note by Mr. Seton on the occurrence of this bird at Toronto was published in *The Auk*, Vol. II., p. 334.

In the breeding season the yellow-headed blackbird gathers in colonies in some marshy spot. At Pembina it was breeding in the prairie sloughs with the black terns and red-wings. (*Coues.*) A common summer resident of the deeper sloughs of the prairie region; more plentiful to the southward in Manitoba. (*E. T. Seton.*) This bird is very numerous in the Northwest Territories and ranges as far north as lat. 58°, but was not seen east of Lake Winnipeg. (*Richardson.*) I once observed this bird at Fort Simpson, on the Mackenzie river, lat. 62°. (*Ross.*) Abundant at Chemawawin, near the Grand rapids of the Saskatchewan, breeding in a slough. (*Nutting.*) Scarce between the forks of the Saskatchewan, though frequently seen in company with the red-wings; breeding in the region. (*Coubeaux.*) Rather rare at Aweme, Man. (*Criddle.*) Abundant by marshes in Manitoba and in similar places in 1906 as far west as Edmonton along the G.T.P. Ry. (*Atkinson.*) This is a common species at Indian Head and Crane lake and in many other parts of eastern Saskatchewan; rather common at Edmonton in northern Alberta, where it bred in small communities in 1897. It was common in 1895 between Moose Jaw and Old Wives lakes. This species requires even a wetter country than the red-wing for nesting in, as its nests are always in reeds or tall grass. It was common in June, 1895, at 12-Mile lake, near Wood mountain, building numerous nests in the dry reeds (*Typha latifolia*) and rushes (*Scirpus lacustris*). There were no eggs, yet on the same date in 1894, at Crane lake, there were young in many nests and it was difficult to get unhatched eggs. The cause of the absence of eggs was evidently the lateness of the season, as on June 7th we had an all-day snow-storm. A few were seen at Wood Mountain Post; the last specimens were noted about 50 miles west of that point. Later, three specimens were noted at Spur creek, north of Milk river and a few in its valley at Kennedy crossing; only one specimen seen and shot on May 25th, 1890, at Revelstoke, B.C.; one seen in the rushes at a lake near Sidley, B.C., May 12th, 1905. (*Spreadborough.*) A rare summer resident on the mainland east of the Coast range. I have taken it above Clinton on the Cariboo road, B.C. (*Fannin.*) A young male was shot at Vernon, B.C. Mr. D. McKinley reports them as occasionally visiting the cattle corrals at Lac la Hâche. (*Rhoads.*) I have two records of this species for Chilliwack, B.C.; noticed only one at 150-Mile House, Cariboo district, B.C., 1901, as a straggler. (*Brooks.*)

Breeding Notes.—In one of the sloughs, where I spent most of the day wading about, sometimes up to my waist, and in some spots considerably deeper, a large number of nests were found, mostly containing nestlings, but with a few eggs. This was the last week of June. The nests were built much like those of the long-billed marsh wren, as far as the situation goes, being fixed to a tuft of reeds or bunch of tall rank marsh-grass, some stems of which pass through the substance. They were placed at varying elevations but always far enough above the water to be out of danger of inundation. The nest is a light, dry, rustling structure, swaying with the motion of the reed to which it is affixed, built of the same materials as those which support it, which are woven and plaited together; no mud is used, nor is there any special lining; the brim is thick and somewhat folded over, like the seam of a garment; but I never saw a nest, among the many examined, which was arched over, as stated by some authors. The diameter outside is five or six inches, and the depth nearly as much. From three to six eggs or young birds were found in different nests; the former measure about an inch and an eighth in length by three-fourths of an inch in breadth. The ground-colour is grayish-green; this is thickly spotted with different shades of reddish-brown, sometimes so profusely that the ground colour is obscured, especially at the larger end. (*Coues.*) At Crane lake, Sask., there was a large colony of these birds which were nesting in a marsh where the water was almost three feet deep. I found that this depth of water round the edge of a reedy pond kept out foxes and coyotes, and here ducks of various kinds, black terns and coots nested in great numbers. All the nests taken by me were slight structures and always fastened to leaves or stems of cat-tail, (*Typha latifolia*). Eggs or young in nest were from three to five, never six. (*Macoun.*)

CCII. **AGELAIUS.** Vieillot. 1816.

498. Redwinged Blackbird.

Agelaius phœniceus phœniceus. (Linn.) Ridgw. 1901.

A very rare summer resident in Nova Scotia. (*Downs.*) Small numbers occasionally seen in November and December in Nova Scotia. (*H. F. Tufts.*) One pair at Cove Head mill, Prince Edward island, 5th July, 1888. (*Macoun.*) One taken on Sable island, N.S.,

April 20th, 1904. (*J. Boutelier.*) A common summer resident in New Brunswick. (*Chamberlain.*) A rare summer resident at Scotch Lake, York county, but abundant at Grand lake and at Bindon, Carleton county, N.B. (*W. H. Moore.*) Taken at Charlesbourg; rare summer resident in Quebec. (*Dionne.*) An abundant resident in the district of Montreal; observed from April 12th to November 1st. (*Wintle.*) Common in Argenteuil county, Que.; very common in the marshes along the Ottawa river, Ont. (*D'Urban.*) A common resident in the district around Ottawa. (*Ottawa Naturalist*, Vol. V.) Very common everywhere I have been in Ontario. (*Rev. C. J. Young.*) Abundant summer resident at Toronto, Ont.; common in marshy districts along large rivers in the districts of Parry Sound and Muskoka. (*J. H. Fleming.*) A few pairs were nesting in the marshes along the Madawaska river below Câche lake, also a few at Source lake, Algonquin park, June, 1900. (*Spreadborough.*)

BREEDING NOTES.—Builds in bushes and low trees around Ottawa, Ont. Its nest is composed of coarse fibrous material, strips of rushes and marsh grass; lined with fine grass. Eggs four to six. Pale blue dotted, blotched and scrawled with blackish-brown. (*G. R. White.*)

498. Thick-billed Redwing.

Agelaius phoeniceus fortis. RIDGW. 1901.

Breeding range Mackenzie river, Athabaska and other interior districts of British America. During migrations, the great plains from eastern base of Rocky mountains to Manitoba. (*Ridgway.*) This species was only noticed at Pembina and was not nearly so common as Brewer blackbird nor the yellow-headed one. The country was not suited for them. (*Coues.*) An abundant summer resident in Manitoba, frequenting the borders of willow-edged swamps. Slave River delta. (*E. T. Seton.*) Common near Aweme, Man., nesting in marshes near water. (*Criddle.*) Abundant everywhere from Portage la Prairie, Man., west to Edmonton along the G.T.P. Ry. (*Atkinson.*) Very common around sloughs and along creeks in Saskatchewan nesting in the flags and long grasses. (*A. C. Bent.*) This is an abundant species in the bushy part of the prairie region; it is always found where there is a marsh bordered by willows in which it prefers to breed. It was common

at Indian Head, Sask., in 1892; at Medicine Hat, Crane lake and Cypress hills in 1894; in 1895 it was abundant at Moose Jaw and Old Wives creek in eastern Saskatchewan; southward they were breeding at the forks of that creek; also in a marsh at 30-Mile lake and at 12-Mile lake; after this they became scarcer and only a few were seen at Wood mountain at the police post and at Medicine Lodge 16 miles south. After this none were seen for 50 miles to the west as the country was without water. A few were seen along Frenchman river and at East End Post and in the marshes of the creeks flowing south out of the Cypress hills; a few were observed in the Milk river valley, above Kennedy crossing. It is common in northern Alberta and was quite common at Edmonton in 1897. (*Spreadborough.*) Common in the Red river valley and abundant about the marshes below Robinson portage, where two specimens were collected June 27th, 1901. A number was seen near Oxford House, Keewatin, July 4th, in the marsh between Oxford and Back lakes. (*Preble.*) Common at the Grand rapids of the Saskatchewan. (*Nutting.*) Common summer resident between the forks of the Saskatchewan, frequenting the willows and poplar-edged sloughs and marshes where it breeds in numbers. (*Coubeaux.*) Common at Methye Portage, lat. 56° 30′ in the spring; very common at the discharge of Methye lake in July, 1888; not seen elsewhere. (*J. M. Macoun.*) This species reaches the Saskatchewan about the beginning of May and does not pass beyond lat. 57°. It associates itself with the other blackbirds and does great injury to sprouting grain. (*Richardson.*) North to Fort Simpson, on the Mackenzie river, common. (*Ross.*)

If Mr. Oberholser is right in segregating *A. phœniceus arctolegus* from *fortis*, practically all the above references would go to *arctolegus*, but for the present the redwings of the Canadian prairies and the far north are all referred to *fortis*.

Breeding Notes.—June 11th, 1882: Went in the morning with two brothers to the lake in the sand-hills east of De Winton; saw there large numbers of marsh terns and various kinds of blackbirds. I was unable, from the depth of the water, to reach the place where the terns seemed to be nesting, but found the nest of the red winged blackbird in a few twigs that projected about a foot above the water, here three feet deep, and some ten feet from

the shore. I saw the female leave the nest, so that the identification is good. The male did not put in an appearance at all. The nest is very deep, neat and strong; it is suspended from about a dozen upright twigs and is built much like that of a Baltimore oriole, but entirely of grass. The eggs, four in number, were all fresh; one was 1 by $\frac{11}{16}$, pale blue, and scrawled over with most curious hieroglyphics in brown-black ink; the others were similar. (*E. T. Seton.*) Breeding abundantly in all pools throughout eastern Saskatchewan, but becoming scarcer to the west. They always bred in communities. At Brandon, Man., nests were found in willows (*Salix longifolia*) and at Crane lake the same species was nesting in *Scirpus lacustris* or bullrushes. In 1895 the same species was breeding in a thick growth of snowberry (*Symphoricarpus occidentalis*) on dry ground, at the forks of Old Wives creek, Sask. Nest of leaves and stems of grasses, lined with the dried stems of *Eleocharis palustris*. At 12-Mile lake, near Wood mountain, Sask., they were nesting in "cat-tails," and at Sucker creek, south of the Cypress hills in an old growth of *Carex aristata*. (*Macoun.*) On June 18th, 1892, at Indian Head, Sask., I waded out into a large slough that had a lot of rushes (*Scirpus lacustris*) growing in it near the middle. In a few minutes I saw ten nests. Three of them had young, half-grown, and others young just hatched. Two nests with four eggs each I took. This was at 9 a.m., and at 8 p.m. I prepared to blow the eggs. On opening the box I found one bird hatched out and one just coming from the shell. Both chicks were lively and seemed quite strong. (*Spreadborough.*)

498*b*. Northwestern Redwing.

Agelaius phœniceus caurinus RIDGWAY. 1901.

This species was first taken in the marshes near Agassiz, B.C., May 10th, 1889, a few pairs were breeding at that time; abundant in the marshes at Chilliwack, B.C., in the summer of 1901. (*Spreadborough*). Taken at Chilliwack, B.C., in 1891, and identified by Mr. W. Brewster; a few of these birds remain throughout the winter at Lake Okanagan, B.C. (*Brooks.*) Chiefly west of the Coast range; breeds on Vancouver island; common. (*Fannin.*) One female shot in the marsh at Comox, April 30th, 1887. Rather common around Copeland lake, Salt Spring island, Gulf of Georgia,

May 9th, 1887, also in a marsh near Cedar hill, Vancouver island. (*Macoun.*)

498*e*. San Diego Redwing.

Agelaius phœniceus neutralis RIDGWAY. 1901.

Breeding range north to eastern British Columbia. (*Ridgway.*) East of Coast range, B.C. (*Fannin.*) Taken at Vernon, B.C. (*Rhoads.*) This form was not uncommon at Penticton, south of Lake Okanagan, B.C., in April, 1903, and at the mouth of the Spullamacheen river, Shuswap lake, in August, 1889; saw four at Midway, B.C., April 11th, 1905, and a number were breeding a little further west at McMinn lake and Meyer creek; others were breeding in a marsh near the Similkameen river; observed two in the valley of the Kootenay river at Elko, B.C. (*Spreadborough.*)

CCIII. STURNELLA. VIEILLOT. 1816.

501. Meadow Lark.

Sturnella magna (LINN.) SWAINS. 1827.

Very rare in Nova Scotia; a mere straggler. (*Downs.*) A rare summer resident in New Brunswick. (*Chamberlain.*) One individual seen at Scotch Lake, York co., N.B., in 1879; none since. (*W. H. Moore.*) Summer resident but scarce in the district of Montreal. (*Wintle.*) A moderately common summer resident at Ottawa, Ont., breeding on the Experimental Farm. (*Ottawa Naturalist*, Vol. V.) Very common in the old settlements of Ontario; I used to see a few in the county of Renfrew; observed three on Wolfe island, April 4th, 1901. (*Rev. C. J. Young.*) Common summer resident at Toronto, Ont.; Mr. Kay puts the first appearance of this species in Muskoka about 1863, and regards it as becoming common at Port Sydney; it occurs at Beaumaris. (*J. H. Fleming.*) Common in the London district; a very few winter with us in most years; not common in north Bruce and on Manitoulin island. (*W. E. Saunders.*)

BREEDING NOTES.—Not very common at Ottawa. Nest on the ground, built of dried grass; lined with finer grass. Eggs four to six. White, speckled with reddish and purplish. (*G. R. White.*) Nest

of fine grass, placed in a hole in the ground in a meadow where the grass was several inches high. (*Meeking.*)

501*b*. **Western Meadow Lark.**

Sturnella magna neglecta (AUD.) ALLEN. 1872.

One specimen of this species was taken by Mr. G. R. White within the city of Ottawa. The bird was singing on top of an elm tree when shot.

All the meadow larks observed on the International Boundary, lat. 49°, were this form. They are a common bird of the whole country, though less numerous as we approach the Rocky mountains. (*Coues.*) An abundant summer resident of the prairie part of Manitoba, breeding freely at all points. (*E. T. Seton.*) A number was seen along the Red river between Winnipeg and West Selkirk, June 14th, 1901. Specimens procured at Winnipeg have been examined and prove referable to this form. (*Preble.*) Abundant at Aweme, Man. (*Criddle.*) Abundant all over Manitoba and west to Edmonton along the line of the G.T.P. Ry. (*Atkinson.*) The prairie lark is a common summer resident between the forks of the Saskatchewan; breeding throughout the country. (*Coubeaux.*) This beautiful bird arrives on the Saskatchewan about the beginning of May, but was not seen any further north. (*Richardson.*)

This is a characteristic bird of Saskatchewan and Alberta. It is common everywhere where there is brush or trees. Although it always builds on the prairies, yet it mounts a tree or bush to sing, and evidently nests in the vicinity; in traverses of over 1,000 miles by wagon it was constantly found where there was brush. It was quite common on Lees creek and Milk river in southern Alberta. Only one seen at Edmonton, Alta., in 1897, but they were common in the foothills south to Crow Nest pass. Apparently rare in the Rocky mountains, but it is common as far as Morley, in the Bow River pass. None observed at Banff in 1891, and only one specimen seen at Revelstoke, B.C., in 1890; not uncommon at Kamloops and southward as well as along the Thompson river to Spence Bridge, B.C.; abundant at Agassiz, Chilliwack and Huntingdon, B.C., summer of 1901; in 1902 was common at Trail and Cascade, on the International Boundary; common in all the open country from Elko

west to Midway, B.C.; a common summer resident on Vancouver island; a number winter near Victoria; tolerably common at Comox, V.I., while I was there in June, 1893. (*Spreadborough.*) Abundant in the lower Fraser valley; a number remain about the stacks and barnyards at Lake Okanagan, B.C., all winter. (*Brooks.*) Abundant both east and west of Coast range, B.C.; winters on Vancouver island. (*Fannin.*) Very rare at Lac la Hâche, in all other open situations abundant from Vancouver island to the Rocky Mountain foothills. (*Rhoads.*) Abundant in some localities in British Columbia. (*Lord.*) Common on the coast of British Columbia where there are meadows; very abundant in the interior. I was told that this species only appeared within the last few years. (*Streator.*)

Breeding Notes.—I have often found the nests of this species in Manitoba and Saskatchewan. It lays five or six eggs which average smaller than those of the eastern meadow lark. (*W.Raine.*) May 18, 1905, found a nest in a clump of bunch-grass, made of grass lined with finer grass. (*Spreadborough.*)

CCIV. **ICTERUS** Brisson. 1760.

Icterus spurius (Linn.) Bonap. 1823.

506. Orchard Oriole.

Three examples of this species were taken in New Brunswick by Mr. Boardman. (*Chamberlain.*) Prior to 19th May, 1898, when I met with a young male, I had only heard of two or three of this species having been observed as far east as Toronto. On 19th May, 1900, I met with a pair and took a male of second year; and for the following week or two saw one or more almost daily. On July 5th I located a pair nesting and am pleased to say that they were not molested. I think this is the first recorded instance of nesting in this locality; but I believe an occasional nest is found near Oakville. I trust to be able to record the arrival of these birds in increasing numbers each succeeding year. (*J. Hughes-Samuel.*) Possibly a very rare summer resident at Toronto, Ont.; there are about a dozen records distributed over a long period of years. (*J. H. Fleming.*) Quite common in the three western counties of Ontario and fairly so along the north shore of Lake Ontario up to within 50 or 75 miles of the Niagara river, but only occasionally observed

near London, and not reported from farther north. Breeds over its whole range. The few nests that have been found have been made chiefly of green grass which makes their discovery very difficult. (*W. E. Saunders.*) One specimen was taken early in June at Pembina, the only locality where observed. (*Coues.*)

507. Baltimore Oriole.

Icterus galbula (LINN.) COUES. 1880.

Two taken at Seal island, Yarmouth co., N.S. (*H. F. Tufts.*) A pair seen on the Charlottetown road, near Brackley Point, Prince Edward island, 10th July, 1888. (*Macoun.*) Very rare at St. John, N.B., but said to be common in other localities. (*Chamberlain.*) Rare summer resident at Scotch Lake, York co., N.B. They are becoming commoner every year. Nest in tall elms near Fredericton. (*W. H. Moore.*) Common around Fredericton, N.B., in the spring of 1898. (*D. Lee Babbit.*) A rare summer resident in Quebec. (*Dionne.*) Heard singing at Chain lake, Montcalm, Argenteuil co., Que. (*D'Urban.*) Common summer resident in the district of Montreal; breeds in the city; observed from May 7th to August 21st. (*Wintle.*) York Factory, Hudson bay. (*Dr. R. Bell.*) A common summer resident about Ottawa; breeds in large numbers in elm trees in the city and its suburbs. (*Ottawa Naturalist*, Vol. V.) One of the commonest birds around Kingston, Ont. and apparently increasing. Has reached the county of Renfrew, where I have seen it. (*Rev. C. J. Young.*) Common summer resident at Toronto, Ont.; Mr. Kay gives 1887 as the year of its first appearance at Port Sydney, Muskoka district; Mr. Taverner refers to it as becoming increasingly common at Beaumaris. (*J. H. Fleming.*) A common summer resident throughout southern Ontario; but quite rare in North Bruce, where I only observed three specimens in four weeks. (*W. E. Saunders.*)

Abundant at Pembina, the only locality where it was found on the International Boundary, lat. 49°; several nests with eggs in them were taken during the latter part of the month of June. (*Coues.*) A common summer resident of open woodlands in the south and west of Manitoba. (*E. T. Seton.*) One seen flying across Red river about midway between Winnipeg and West Selkirk, June 14th, 1901. (*Preble.*) Common in open woods at Aweme, Man. (*Crid-*

dle.) Quite numerous from Manitoba to Edmonton along the line of the G.T.P. Ry. except in the saline districts around the Eagle hills. (*Atkinson.*) Rare in the timbered districts about Maple creek, Sask. (*A. C. Bent.*) In the spring of 1892 many specimens were seen at Indian Head, Sask., and nearly all remained to breed; others at Medicine Hat, Sask., in May, 1894; and others were taken on Old Wives creek, Sask., in May, 1895. None were observed south or west of the above point. Arrived at Edmonton, Alta., on May 20th, 1897; later, many were seen flying north but a few remained to breed. They nested in tall poplars over 30 feet from the ground, yet nests were found in bushes six feet from the ground. (*Spreadborough.*) This handsome bird is a regular and not uncommon visitor between the forks of the Saskatchewan; frequently seen and heard in the thickets where it hangs its pretty nest. (*Coubeaux.*) This bird ranges through the central part of the Northwest Territories up to lat. 55°, beyond which it does not seem to go. (*Richardson.*)

Breeding Notes.—I found a nest of this bird June 7th, 1890, at Dorval, built in the top of a thin bush, within reach of hand from the ground, and containing five fresh eggs, but as a rule their nests are built here hanging to branches of large trees, twenty or thirty feet above the ground. I saw this species feeding on the ground, an unusual position to find the oriole in, as they generally confine themselves to the trees and bushes when feeding. (*Wintle.*) Breeds throughout Manitoba and in Saskatchewan as far west as Crescent lake. (*W. Raine.*) Builds near the end of a long branch, elm tree preferred at Ottawa. Nest composed of the flax of silk weed, willow down, wool string, lined with lint, wiry grass and horse hair; eggs five, white with a faint tinge of blue, spotted, scrawled and streaked with lilac and brown, mostly towards the larger end. (*G. R. White.*) On June 25th, 1882, on the north bank of the eastern slough, I found a Baltimore oriole's nest in an oak tree, about 10 feet high. This nest was about four inches deep. It was formed of the outer bark of the *Asclepias,* and so thoroughly interwoven and "darned" that the fabric was like a thick warm felt. It was remarkably strong, too, and with a view to testing it in this particular I brought it home with the branch that bore it, and, having hung to it a pail by a band across the upper surface, proceeded to add weight. Fifteen pounds were gradually added without it showing any signs of breaking, but at the seven-

teenth the weight slipped to one side, and being thrown upon but one of the fastenings, broke it. I then procured another nest, an old one of the same material, and tried it successively with 15, 20, 25, 27 pounds, and still it held together; 29 and 30 were reached without breakage, but at 31 it began to give, and after a few seconds the weight tore through the fabric, without, however, injuring the fastenings at the top. On October 19th found an old nest of an oriole down by the slough. It was woven of strips of *Asclepias* bark and suspended from four or five twigs. I made a careful test of its strength and found that it bore 15 pounds weight without the least sign of breaking, but an additional two pounds, thrown carelessly on, tore it from its fastenings. (*E. T. Seton.*)

508. Bullock Oriole.

Icterus bullocki (SWAINS.) BONAP. 1838.

The only oriole taken was reported by Dr. Bishop as follows: "I shot a male along the timber near Maple creek, on July 2. This bird is typical (*bullocki*) except that it has the malar region, auriculars and sides of head black and many feathers of sides of neck tipped with black. Probably a hybrid with *galbula.*" This may have been one of the birds that I saw and took to be *galbula*. Prof. Macoun says: "Breeding in considerable numbers in trees in the valley of the Saskatchewan at Police point, Medicine Hat, Sask., May, 1894; not noticed further east." Probably *galbula* reaches its western limit and *bullocki* its eastern limit somewhere in this vicinity. (*A. C. Bent.*)

Breeding in considerable numbers in trees in the valley of the Saskatchewan at Police point, Medicine Hat, Sask., May, 1894; not noticed further east; common in the trees at Osoyoos lake, B.C., and breeding, June, 1905, a large colony was found breeding in the valley of the Thompson at Kamloops, B.C., in June, 1889; rather rare at Spence Bridge, B.C., in 1889; one specimen seen at Chilliwack, B.C., May 23rd, 1901, and several, May 27th, 1906. (*Spreadborough.*)

Abundant in some parts of British Columbia. (*Lord.*) I met with this bird only at Ashcroft, where one specimen was taken and a few more seen. (*Streator.*) East of Coast range only; a rare summer resident; breeds at Câche creek. (*Fannin.*) Rare at Ashcroft and

disappearing midway between Ashcroft and Clinton, on the Bonaparte river; more numerous at Kamloops, and abundant around Swan lake, at Vernon, B.C. (*Rhoads.*) Abundant east of Coast range; a few pairs breed west of it at Chilliwack, B.C. (*Brooks.*)

CCV. **EUPHAGUS.** CASSIN. 1867.

509. Rusty Blackbird.

Euphagus carolinus (MÜLL.) 1867.

Common in Labrador; breeds at Fort Chimo, where young just from the nest were obtained July 10th, 1884. (*Packard.*) One pair observed on Moose river, June 2nd, 1896; doubtless breeding; tolerably common in marshes from Richmond gulf to Ungava; seen in flocks in the interior, July 24th. (*Spreadborough.*) A regular and common summer migrant in Newfoundland. (*Reeks.*) Fairly common along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*) Common summer resident in Nova Scotia. (*Downs.*) Fairly common from the last of March till September in Kings co., N.S. (*H. F. Tufts.*) Bayley says it breeds freely in the alders near Sydney, Cape Breton island. First seen May 7th, common by June 8th, and remained all summer. (*C. R. Harte.*) Occasionally seen at Baddeck and Margaree, Cape Breton island, N.S. (*Macoun.*) Four or five seen on Sable island, N.S., Sept. 24th, 1907; came to Sable island in numbers during a northwest gale, Sept. 30th, 1905. (*J. Boutelier.*) A flock of twenty or more, largely young birds, near East point, Prince Edward island, was seen July 7th; these were the only ones observed although I had heard of their occurrence before. (*Dwight.*)

An irregular summer visitor in New Brunswick. (*Chamberlain.*) A common spring and autumn migrant at Scotch Lake, York co., N.B. Have heard recently that this species breeds at Benton, Carleton co. (*W. H. Moore.*) Taken at Beauport; a migrant in spring and autumn in Quebec. (*Dionne.*) Breeds abundantly in swamps at East point, Magdalen islands. (*Bishop.*) Saw a family of this species at Inlet, Que., July 12th, 1905. (*Rev. G. Eifrig.*) Common and breeding at Lake Mistassini, northern Quebec. (*J.M. Macoun.*) A common transient visitant in the Montreal district;

arrives in small flocks in spring and passes further north to breed, returning in autumn in larger flocks. (*Wintle.*)

A common spring and autumn migrant; it may breed sparingly in the northern part of the Ottawa district. (*Ottawa Naturalist,* Vol. V.) I found this bird breeding commonly in the Magdalen islands; in the month of June the young were hatched and I secured two sets of eggs from there. In the summer of 1898 I saw one bird near Lansdowne, Ont., but in the month of October large flocks arrive from the north. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont. Assembling in large flocks in Muskoka and Parry Sound districts; I am not aware that they breed in these districts. (*J. H. Fleming.*) Common along the Missinabi river; seen in ones and twos along the river the second week in September beginning to gather in flocks the last of the month. (*Spreadborough.*)

Several seen and a female taken near the head of Echimamish, Keewatin, where they were undoubtedly breeding. Large flocks seen at Fort Churchill. Later, in the season of 1901, they were found abundant on the return south from York Factory. (*Preble.*) York Factory, Hudson bay. (*Dr. R. Bell.*) Fort Churchill, Hudson bay. (*Wright.*) The rusty grackle enters Dakota from the north in September, and then mixes indiscriminately with Brewer's blackbird; but the two will not be found together during the breeding season. (*Coues.*) An enormously abundant migrant in Manitoba in the spring and autumn migrations; a few may breed. Noted at several points along Great Slave lake in 1907. (*E. T. Seton.*) Abundant at Aweme, Man., breeding. (*Criddle.*) Only observed in Manitoba as a migrant though it may breed in the northern parts, excessively abundant in migration. Not noticed west of the province. (*Atkinson.*) Common at Indian Head in the spring of 1892; none were observed on the prairie in 1894 and 1895; in the spring of 1897 they were abundant at Edmonton, Alta., and a nest was taken in a thicket overhanging a pool of water; a few breeding all along the trail from Lesser Slave lake to Peace River Landing, Alta., in 1903. (*Spreadborough.*) Common at Chemawawin, near the Grand rapids of the Saskatchewan. (*Nutting.*) Arrives in the spring in flocks between the forks of the Saskatchewan. (*Coubeaux.*) Abundant everywhere between Calgary and Athabaska Landing in northern Alberta; rare at Fort McMurray in lat. 56° 30′;

not rare at Methye portage; abundant between Methye lake and Isle à la Crosse in 1888. (*J. M. Macoun.*) This sombre-coloured bird is the most northern of the American *Sturnidæ*, its summer range reaching to the 68th parallel, or as far north as the woods extend. It reaches the Saskatchewan about the end of April, and is at Great Bear lake, lat. 65°, by the 3rd of May, generally in pairs. (*Richardson.*) North on the Mackenzie river to Fort Good Hope; common. (*Ross.*) This bird is fairly abundant in the neighbourhood of Fort Anderson, and they were frequently observed as far as the eastern limits of the forest, as well as near the "crossing" of the Horton river in about lat. 69°. The twenty-five nests discovered were built in trees from five to eight feet from the ground. (*Macfarlane.*) One specimen shot at Metlakatla, B. C., by Rev. J. H. Keen, Nov. 21st, 1901. (*Kermode.*) This species is a regular summer resident in northern Alaska wherever trees and bushes are found, reaching the vicinity of the sea coast; in northern Alaska it reaches lat. 70°. (*Nelson.*) One specimen taken on Sheep creek, near Homer, Alaska, was the only specimen observed. (*Figgins.*) This was a fairly common bird along the Kowak, Kotzebue sound, from the delta eastward. They were seen in small flocks until September 8th, and the following spring returned in flocks, May 22nd, after which they separated into smaller groups. (*Grinnell.*) Taken at several localities near Bristol bay, Alaska. (*Osgood.*) This bird is one of the earliest land birds to arrive at St. Michael. It is not common there and does not breed in the vicinity to my knowledge. (*Turner.*) Saw two specimens at Log Cabin, in the White pass, on June 15th, 1899. Osgood took a specimen near Fort Yukon, Alaska, and a small flock was seen near St. Michael. (*Bishop.*) Two males were shot at Tyonek, Cook inlet, Alaska, in September, 1899. (*Osgood.*)

Breeding Notes.—Met with at London as a rare migrant in spring and more common in the fall, but in North Bruce it breeds sparingly on the inland lakes where I found a nest on June 9th, 1887. The nest was placed in a maple shrub, two feet over the water and was made of tamarac and other twigs lined with green grass, with mud between it and the exterior twigs. It contained three eggs whose spots are more rufous and ground colour more greenish than those of Brewer's blackbird. (*W. E. Saunders.*)

Gradually pushing east it has always been rare at Toronto, but Mr. J. Hughes-Samuel found a pair nesting at Toronto island in the spring of 1900. (*J. H. Fleming.*) A few pairs nest in Saskatchewan, but most of the birds go further north to nest. It is often confounded with Brewer's blackbird as the nests and eggs resemble each other. (*W. Raine.*) Arrived at Edmonton, Alta., May 20th, on June 10th found a nest with four young and one egg. The nest was placed upon a spruce tree which had fallen a number of years before and was bleached white by the weather and was hanging horizontally over a small pond that was in the heavy timber near the river. The tree was about a foot from the water, where the nest was. I also found an old nest upon a heap of old spruce brush in the same pond. The nest was made of dry grass. There were no weeds or grass in the pond. June 13th, I saw young able to fly, these were in a dried-up slough in the heavy timber. (*Spreadborough.*) On the Magdalen islands this bird builds a nest very similar to that of the robin, all low down in the spruce near the end of thick boughs. (*H. K. Job.*) I found a nest in bushes overhanging a small lake near Innisfail, Alta., in June, 1903 The one egg was taken and the female shot. I have never found this species nesting anywhere except in shrubs over water and I have never found Brewer's blackbird nesting in such a situation. (*W. E. Saunders.*)

510. **Brewer Blackbird.**

Euphagus cyanocephalus (WAGL.) CASSIN. 1867.

I have a specimen of this species said to have been taken at Toronto, Ont. (*J. H. Fleming.*) This is the characteristic blackbird of the whole region along the International Boundary from Pembina to the Rocky mountains. (*Coues.*) An abundant summer resident in most districts; this species gathers in large flocks and commits great depredations in wheat and oat fields in the autumn. (*E. T. Seton.*) Common in the Red river valley between Winnipeg and West Selkirk, June 14th, 1901. (*Preble.*) Altogether the most abundant and regularly distributed blackbird in the west in the more open and scrub country. Noted everywhere in Manitoba and west to Edmonton, Alta. (*Atkinson.*) Apparently rather common at the Grand rapids of the Saskatchewan.

(*Nutting.*) This species, the rusty grackle and the bronze grackle arrive together, in flocks, in spring and afterwards separate and breed in colonies. (*Coubeaux.*) Very abundant in the timber along creeks in Saskatchewan. (*A. C. Bent.*) Very abundant at Indian Head, Medicine Hat and Crane lake, wherever there was brush. This is the characteristic blackbird of Saskatchewan and Alberta, at least as far north as Edmonton, and abounds everywhere from the International Boundary northward to the Saskatchewan; common on the Grande Prairie, Peace River district, Aug. 15th, 1903; a few were seen in the spring of 1891 at Banff, Rocky mountains, but they do not breed there; seen at Revelstoke on the Columbia river, B.C., April 4th, 1890, and later, on May 3rd, a few more were seen; they do not breed there; saw two at Bayne lake, near Fernie, B.C., May 2nd, 1904; common at Midway, B.C., April 6th, 1905, and found a number of nests at Sidley, May 14th; they were built in bushes in a swamp and made of fine grass and horse hair; they were also found on the ground at the base of a clump of dwarf birches; in flocks 10 miles south of Kamloops, B.C.; also common at Agassiz in May, 1889; common at Chilliwack, B.C., in the spring; only observed three at Huntingdon in the fall of 1901; only one specimen seen on Vancouver island, April 16th, 1893, none seen afterwards that year; three seen at Clayoquot, Vancouver island, Oct. 17th, 1907. (*Spreadborough.*) A few individuals of this species remain at Lake Okanagan, B.C., all winter. (*Brooks.*) Both east and west of the Coast range; common in spring and fall at the mouth of the Fraser, B.C.; breeds in the neighbourhood of Clinton. (*Fannin.*) Breeding in suitable localities, both east and west of the Coast range to Vernon, B.C., in the south and Lac la Hâche in the north. (*Rhoads.*) North to Fort Simpson on the Mackenzie river. Not rare. (*Ross.*) Common in some parts of British Columbia. (*Lord.*) Generally distributed in British Columbia, but not common. (*Streator.*)

Breeding Notes.—On June 8th, 1882, C. T. found a grackle's nest on the newly harrowed ground in a field not more than 20 yards from a clump of willows. The eggs, five in number, were in a slight hollow in the ground, without a single straw or any pretense of lining. My brother sprang the bird and then called

me. I did not see the bird rise, but a pair of grackles were flying about and noisily resented our interference, and as no other birds were near, I feel safe in the identification. The dozen of nests of this species which I have examined were all either on the ground or in low forks or saddled on logs, close to some pond, and were more or less composed of mud when elevated. I found half a dozen nests around a single small lake on the Duck mountain. The eggs are in colour between those of the rusty and purple grackles. (*E. T. Seton.*) This species builds a large nest of the stalks of dried plants, lined on the inside with horse-hair. In size it averages over six inches across, with a cup over three inches and a depth of at least 1½ inches. Eggs usually five, variously speckled and spotted. Nests always placed in close thickets and mostly in small communities. Nests were taken at Medicine Hat and Old Wives creek, Sask. in thickets of *Prunus*, *Cratægus*, *Symphoricarpus*, and willows of various kinds. (*Macoun.*)

CCVI. **QUISCALUS.** Vieillot. 1816.

511. **Bronzed Grackle.**

Quiscalus quiscula æneus (Ridgw.) Stein. 1885.

A summer migrant in Newfoundland, but rare. (*Reeks.*) Rare in Nova Scotia; only three specimens seen. (*Downs.*) Rare in King's co., N.S.; one observed May 3rd, 1895. Uncommon and local summer resident in Nova Scotia. (*H. F. Tufts.*) Migrants arrived at Shulee, Cumberland co., N.S., March 12th. (*C. H. Morrell.*) Two seen at Sable island, N.S., April 29th, 1907. (*J. Boutelier.*) One pair seen at Tracadie, Prince Edward island, 11th July, 1888. (*Macoun.*) A pair of these birds in Mr. Earle's possession were the only ones he had ever seen on Prince Edward island. (*Dwight.*) An abundant summer resident in New Brunswick. (*Chamberlain.*) Very rare in the Restigouche valley. (*Brittain & Cox.*) A common summer resident at Scotch Lake, York co., N.B. (*W. H. Moore.*) Taken at Beauport; a common summer resident in Quebec. (*Dionne.*) An abundant summer resident in the Montreal district; breeds in the city; observed here from April 1st to October 11th. (*Wintle.*) Fort Churchill, Hudson bay. (*Wright.*) York Factory, Hudson bay. (*Dr. R. Bell.*)

Several seen near Sea falls and on the lower Echimamish, June 24th, 1901; common down to Oxford House, but none seen below. (*Preble.*)

A common summer resident in the Ottawa district. (*Ottawa Naturalist,* Vol. V.) A common summer resident, but the flocks that collect in the fall are not so large as formerly, I notice. I saw none on the Magdalen islands; arrived on Wolfe island, April 2nd, 1901. (*Rev. C. J. Young.*) Abundant summer resident at Toronto, Ont.; a common breeding species in the Muskoka and Parry Sound districts; at Kearney they nest in old woodpecker's holes. (*J. H. Fleming.*) Abundant everywhere along the shores of the lakes in Algonquin park; young ones able to fly by June 18th, 1900. Common at Missinabi, Ont., June 1st, 1904, breeding. (*Spreadborough.*)

Abundant at Pembina where it was breeding in June in the hollows of trees. Occurred sparingly along the Mouse (Souris) river in the fall, and during 1874 was traced westward to the Rocky mountains. (*Coues.*) An abundant summer resident in Manitoba wherever there is wood and water; it apparently extends as a straggler northward to Hudson bay. (*E. T. Seton.*) Common at Aweme, Man., nesting in willow thickets near the edge of marshes. (*Criddle.*) A common summer resident in the wooded parts of Saskatchewan; at Indian Head, where nests were taken June 20th, 1892, one nest was on the side of a large poplar tree, in a bunch of small twigs that grew out from the side of it about 10 feet from the ground; also at Medicine Hat, and nesting in Cypress hills in 1894; in May, 1895, nests were taken in holes in *Acer Negundo* near the mouth of Old Wives creek, eastern Saskatchewan; first seen at Edmonton, Alta., April 24th, 1897, quite common by May 31st; found a nest in a balsam stub; nest composed of weeds lined with grass; incubation had been going on for about a week; next found a nest with young lately hatched. One pair seen at Lesser Slave lake and one bird at Dunvegan, Alta. (*Spreadborough.*) An abundant species in Manitoba and noted everywhere in 1906 along the G.T.P. Ry. west to Edmonton, Alta. (*Atkinson.*) Uncommon in the timber on Maple and Skull creeks, Sask. (*A. C. Bent.*) Very abundant at the Grand rapids of the Saskatchewan. (*Nutting.*) Breeding abundantly between the forks of the Saskatchewan. (*Coubeaux.*) Breeding abundantly from Winnipeg, Manitoba, to

the foothills of the Rocky mountains in Alberta. (*W. Raine.*) These birds arrive on the Saskatchewan about the beginning of May and soon after pair and commence to breed. They build their nests like rooks, several in the same tree and occasionally in the loose sticks of an osprey's nest. (*Richardson.*) North to Fort Simpson on the Mackenzie river; rare. (*Ross.*)

Breeding Notes.—In the neighbourhood of Ottawa, Ont., this species nests in a tree or bush. Its nest is built of mud; lined with grass and rootlets, horse hair and leaves. Eggs five to six, bluish or greenish with purple veining and clouding with dark brown and blackish. (*G. R. White.*) This species nests in barns on islands and intervales along the St. John river, N.B.; sometimes there being three and four nests in one barn. They are usually built on beams or in the angle of a post and brace of the framework. The eggs number from three to five and are hatched by May 24th. (*W. H. Moore.*) Numbers were building in holes of dead ash-leaved maple at Old Wives creek, Sask., in May, 1895. One nest was taken on May 30th in a clump of tall choke-cherries. It was about six feet from the ground and was about eight inches across and built of the stems of various weeds. The inside was plastered with earth and afterwards lined with grass stems and a little horse hair. It was shaped like the nest of Brewer's blackbird, but smaller. (*Macoun.*) Most of the nests are built in cedar and other coniferous trees; some are fixed to the reeds in the marshes, while others are placed in barns with nests of robins, of phœbes and of barn swallows. They are composed of coarse grass and mud, and lined with finer grass. Their dimensions are 6 inches in diameter by 4 or 5 inches in height, and their cavity has 4 inches in diameter by 3 in depth. The birds lay five eggs at the beginning of May. (*A. L. Garneau.*)

Family XL. **FRINGILLIDÆ.** Finches, Sparrows, &c.

CCVII. **HESPERIPHONA** Bonaparte. 1850.

514. Evening Grosbeak.

Hesperiphona vespertina (W. Cooper) Bonaparte. 1850.

On November 24th, 1903, four specimens of the evening grosbeak were brought to me, three males and a female, that had been killed in the woods near Quebec. Later, about the end of January, 1904,

five others, of which one was a female, were shot in the same neighbourhood. To my knowledge, these are, with the exception of one killed in 1890, the only specimens ever met with here. (*Dionne.*) A rare winter visitant at Montreal. I believe the first record of the occurrence of this species here was during the winter months of the year 1890, when several were observed January 28th, in McGill College grounds by Dr. Harrington of this city. (*Wintle.*) In the spring of 1899 one fine male was shot in Rockcliffe park by Mr. Muirhead who was a guest at Government House. (*Macoun.*) A rare winter visitor. Seen in considerable numbers at Guelph, Ont., during February, 1902, a flock of seventy-five being seen on the 6th of that month by Prof. M. W. Doherty. (*A. B. Klugh.*) First reported in Ontario by Dr. T. J. Cottle, who saw a flock among evergreens at his residence near Woodstock, Ont., in May, 1866; noted near London, Ont., in 1871; saw two on March, 17th 1883, in West Flamboro, Ont. (*McIlwraith.*) A flight in the winter of 1854-55 in southern Ontario is the earliest recorded. Other flights are recorded, but the great flight was in the winter of 1889-90; the first birds were recorded at Toronto, January 18th, and the last May 26th. It was estimated that not less than 1,000 were slaughtered. Sometimes appears in large flocks in winter; it comes into the Parry Sound district much more regularly than is supposed. A flock remained at Emsdale till the end of the first week in May, 1897, feeding on the seeds of the sumac. (*J. H. Fleming.*) Since the winter of 1889-90, I have seen only two or three specimens of this bird around Toronto; the last, a female, being taken near the city in April, 1897. (*J. Hughes-Samuel.*)

This species is an abundant winter visitor at Portage la Prairie and Winnipeg, and in other parts of Manitoba. It generally appears about the middle of October. From that date it continually increases in numbers until December, when it reaches its maximum. Whilst here it frequents the northwest maple or box elder, feeding on its seeds, and seldom visits the ground, except in spring, when it will sometimes crowd thickly on a bare spot, apparently seeking small gravel for digestive purposes. As far as known its nest has never been found. (*E. T. Seton.*) Uncommon at Aweme, Man., though common in some of the cities. Feeds largely on the seeds of the Manitoba maple in winter; has not been noted in the summer. (*Criddle.*) A regular and abundant winter visitor throughout Man-

itoba. I am of the opinion that it breeds occasionally in that province, as I have collected specimens in early August. (*Atkinson.*) At the beginning of the winter of 1900 I noted this bird for the first time at Prince Albert, Sask., though it had been seen there before. I saw it all through the winter in flocks of 8 to 20. (*Coubeaux.*) This gay and very remarkable bird is a common inhabitant of the maple groves (*Negundo aceroides*) on the Saskatchewan plains. As it arrives late we left Carlton House before they arrived, but Mr. Prudens kindly sent specimens to us. It frequents the borders of Lake Superior also, and the eastern declivity of the Rocky mountains, in lat. 56°, but its habits are unknown. (*Richardson.*) Not uncommon at Edmonton, Alta., between April 16th and May 14th, 1897, when they disappeared. Two specimens were seen on the trail between Lesser Slave lake and Peace River Landing, Alta., in June, and a pair with young birds just able to fly at Dunvegan, lat. 56°, July 26th, 1903. (*Spreadborough.*)

Mr. J. H. Fleming, in *The Auk*, Vol. XXIV., p. 78, and the Rev. C. J. Young, in *The Ottawa Naturalist*, Vol. XVIII., p. 24, give fuller data than is printed here of the occurrence of this bird in eastern Canada.

514*a*. Western Evening Grosbeak.

Hesperiphona vespertina montana RIDGWAY. 1874.

British Columbia. (*Mearns.*) Met with in the interior only; in August they were passing southwards in flocks of considerable size. (*Streator.*) East of Coast range, B.C., straggling west (in winter) to lower Fraser and Vancouver island. I found it at the summit of the Coast range in June, 1891. (*Fannin.*) One shot out of a flock of twelve, March 31st, 1894, at Seymour creek, Burrard inlet, B.C. (*E. F. G. White.*) Tolerably common resident at Chilliwack, B.C.; common winter resident at Okanagan, B.C. (*Brooks.*) Valley of the Columbia. (*Lord.*) Seen as a spring migrant at Banff, Rocky mountains, in April, 1891, (perhaps the eastern form); quite common along both Arrow lakes, Columbia river, B.C., in June, 1890; rather common in small flocks at the mouth of Pass creek, near Robson, B.C.; they were apparently getting ready for a second brood, June 21st; eating poplar buds; May 15th, 1901, observed a flock of about fifteen at Chilliwack, B.C.; a small flock

was seen at Penticton ,B.C., April 14th, 1903; observed seven on the bank of the Elk river, B.C., May 7th, 1904; took three on the Hope trail about 14 miles south of Hope, B.C., July 5th; one seen on the second summit west of the Skagit at an altitude of 6,000 feet, July 22nd; one seen near Victoria, Vancouver island, May 24th, 1893, the only one seen that summer. (*Spreadborough.*) In April, 1887, a small flock was seen at Comox, Vancouver island. (*Macoun.*)

CCVIII. PINICOLA. Vieillot. 1807.

515. Pine Grosbeak

Pinicola enucleator leucura (Müller) Richmond. 1902.

An abundant summer resident at Fort Chimo, Labrador; breeds there; nest and eggs obtained. Plentiful in southern districts among timbered tracts. Resident south of the "height of land." (*Packard.*) One seen at Richmond gulf, July 1st, 1896; not again observed in Ungava. (*Spreadborough.*) Three specimens taken at Cullingham cove, Hamilton inlet, Labrador, 1891. (*Norton.*) Common throughout the year in Newfoundland. (*Reeks.*) Common in winter in Nova Scotia. (*Downs.*) Abundant during December and first two weeks in January in Cumberland county, N.S., after which none were seen, with the exception of one pair seen at Shulee, April 3rd, 1899. (*Morrell.*) Common in the spruce woods north of Atillik, northeast coast of Labrador, beyond which spruces dwindled into low bushes. (*Bigelow.*) Two adults and two young were watched within a few yards of Neil harbour, Cape Breton island, N.S. (*Townsend.*) A flock of several was seen at Sydney, Cape Breton island, N.S., May 24th, 1902. Known locally as "Ortolan." (*C. R. Harte.*) Frequently abundant during early winter in Nova Scotia; sometimes observed in summer. (*H. F. Tufts.*) Common in New Brunswick in winter. (*Chamberlain.*) Rare summer resident near Scotch Lake, York county, N.B.; breeds to the north of the province. (*W. H. Moore.*) Found nesting in the valley of Restigouche, N.B. (*Brittain & Cox.*)

Common in the winter at Lake Mistassini, Que. (*J. M. Macoun.*) Common summer resident in eastern Quebec. (*Dionne.*) A common winter visitant at Montreal; they often visit the city in such places where mountain ash trees with berries are to be found; observed from October 30th to April 26th. (*Wintle.*) Irregularly

abundant at Ottawa, Ont. It appeared in immense numbers in the winter of 1882-3, and again in 1888-9, as did many others of our winter birds. (*Ottawa Naturalist*, Vol. V.) More or less common in Ottawa every winter. (*Macoun.*) In March, 1895, I saw several of these birds at Lansdowne, Ont., feeding on the seeds of the black ash. In the month of June, 1897, I found them common on the Magdalen islands, Que., where a few breed in the thick woods of spruce. Numerous flocks visited eastern Ontario during the winter of 1907. They were common in the vicinity of Madoc and fed on the seeds of frozen apples and crabs that still hung on a few trees. (*Rev. C. J. Young.*)

Irregular winter migrant, sometimes abundant at Toronto, Ont. In the districts of Parry Sound and Muskoka, in September, 1898, I saw small flocks feeding on the tops of the highest pines. (*J. H. Fleming.*) A winter visitor at Guelph; fairly common some years, in others entirely absent. (*A. B. Klugh.*) A winter resident at Penetanguishene, Ont. Very plentiful during the winter of 1900 and 1901, when the nuts were a very heavy crop, at which time they could be seen in the beech woods picking at the hulls of the remaining nuts. (*A. F. Young.*)

A somewhat common winter visitor in Manitoba; possibly nesting in the northern spruce woods. First seen in 1907 on Et-then island, Great Slave lake, September 21st; afterwards seen daily as we journeyed southward. (*E. T. Seton.*) A male was seen perched on a tree overhanging Hill river, near the mouth of Fox river, July 8th, 1900; the species was reported to us by the residents at Fort Churchill. (*Edward A. Preble.*) A regular and abundant winter visitor generally throughout Manitoba, but not known to breed. (*Atkinson.*) Tolerably common winter resident at Aweme, Man. (*Criddle.*) On April 15th, 1892, shot a male at Indian Head, Sask.; his stomach was full of poplar and willow buds and a few seeds of the wild buckwheat; none was seen afterwards. (*Spreadborough.*) This species leads a quiet and retired life in the glomiest recesses of the coniferous forests; it is seldom seen. It was not observed north of the sixtieth parallel by any member of the expedition. It builds its nest on the lower branches of a tree and feeds chiefly upon the seeds of the spruce. (*Richardson.*) North, on the Mackenzie river, to Fort Good Hope; not rare. (*Ross.*) In the spring of 1861 an

Indian discovered a nest of this species about sixty miles south of Fort Anderson, we never discovered another. (*Macfarlane.*) Tolerably common in small flocks and more frequently seen along the banks of both branches of the Saskatchewan. This bird is one of our constant winter visitors, arriving about the end of October and leaving about the end of March. (*Coubeaux.*)

515*a*. Rocky Mountain Pine Grosbeak.

Pinicola enucleator montana RIDGW. 1898.

This species was taken at Banff, Rocky mountains, in 1891; both old and young birds seen at Canmore near Banff in June, 1885; saw two on a mountain on the north side of the Miette river near Jasper House, Alta., August 29th, 1898; common around Revelstoke, B.C., up to April 28th, 1890; their chief food was buds of balsam poplar; seen as late as May 23rd in the Eagle pass, B.C.; not rare on Mount Queest, Gold range, Shuswap lake, B.C., alt. 6,000 feet, August, 1889; and one seen near the summit of a mountain at Robson, Columbia river, B.C., June 24th, 1890; saw two on the first summit west of the Skagit in 1905; observed a small flock at an altitude of about 5,000 feet, east of the Columbia river on the International Boundary, B.C., September 10th, 1902. (*Spreadborough.*)

BREEDING NOTES.—I have a nest and four eggs that were taken at Banff, in the Rocky mountains, June 3rd, 1896. The nest is composed of twigs, roots and grass; lined with fine roots and hair. It was built on the branch of a spruce tree about 15 feet from the ground. (*W. Raine.*)

515*c*. Alaskan Pine Grosbeak.

Pinicola enucleator alascensis RIDGW. 1898.

Northwestern North America, including wooded portions of Alaska except Kadiak and the southern coast district, south in winter to Montana and eastern British Columbia. (*Ridgway.*) A winter visitant to the valley of the Chilliwack river, B.C.; common winter resident in Cariboo district; breeds in the timber zone and winters at Okanagan on the mountains. (*Brooks.*) East and west of Coast range, except Vancouver island, also taken at Fort Simpson, B.C., by W. B. Anderson. (*Fannin.*) Rare at Metlakatla, B.C. (*Rev. J. H. Keen.*)

Along the entire west and northwest coast of America from Vancouver island north to within the Arctic circle, this bird occurs in greater or less abundance. The only breaks in this range are the treeless areas which occur along the the coast of Behring sea. Throughout the interior of the above region it is an abundant species. (*Nelson.*) This species is a resident of the interior and wooded districts of the entire territory of Alaska. (*Turner.*) Sheep creek and Homer, Kenai peninsula, Alaska; at these places nine specimens were taken in July and September, 1901. The patches of cottonwood were the favourite haunts of this bird. They were never found in spruce timber except while perched upon the topmost branch of a dead tree, where they remained but for a few minutes. During heavy rain storms they repair to the lower underbrush and even the low grass. (*Figgins.*)

Breeding Notes.—The Alaskan pine grosbeak proved to be a common resident throughout the year in wooded tracts from the delta through the Kowak valley. My first acquaintance with this species was made on the 25th August, 1898, when two adults and two full-grown young were observed. They were silent save for a low, mellow call-note, and were feeding on the green alder seed-pods. I secured the two adults, which were in moulting plumage. In September and October pine grosbeaks were quite numerous, being often met with in companies of six to a dozen, immatures and adults together. They were usually among the scattering birch and spruce which line the low ridges. There, until the snow covered the ground, they fed on blueberries, rose-apples and cranberries. During the winter their food was much the same as that of the redpolls—seeds and buds of birch, alder and willow, and sometimes tender spruce needles. In the severest winter weather they were not often in the spruce, but had then retired into the willow beds. The usual note is a clear whistle of three syllables. The native name Ki-u-tak represents it. Then there was a low, mellow, one-syllabled note uttered among members of a flock when alarmed. Twice I noted solitary males, when flying across the woods, singing a loud, rollicking warble, much like a purple finch. One morning, the 18th February, found me across the river skirting the willows in search of ptarmigan. Although it was 50 degrees below zero, a pine grosbeak, from the depths of a nearby thicket, suddenly burst forth in a rich melodious strain,

something like our southern black-headed grosbeak. He continued, though in a more subdued fashion, for several minutes. Such surroundings and conditions for a bird-song like this! Again one day in March, during a heavy snow-storm, a bright red male sang similarly at intervals for nearly an hour, from an alder thicket near the cabin, and as summer approached their song was heard more and more frequently. Not until May 25th did I discover a nest. This was barely commenced, but on June 3rd, when I visited the locality again, the nest was completed and contained four fresh eggs. The female was incubating, and remained on the nest until nearly touched. The nest was eight feet above the ground on the lower horizontal branches of a small spruce growing on the side of a wooded ridge. The nest was a shallow affair, very much like a tanager's. It consisted of a loosely-laid platform of slender spruce twigs, on which rested a symmetrically-moulded saucer of fine, dry, round-stemmed grasses. Its depth was about one inch and internal diameter 3.25. The eggs are pale Nile blue with a possible greenish tinge, dotted and spotted with pale lavender, drab and sepia. The markings are very unevenly distributed, the small ends of the eggs being nearly immaculate, while there is a conspicuous wreath about the large ends. The markings are not abruptly defined, but the margins of the spots are distinct, fading out into the surrounding ground colour. One of the eggs is more thickly and evenly sprinkled with various tints of bistre. The eggs are rather ovate in shape, but the small ends are blunt. On June 11th, in the Kowak delta, I found a similarly constructed nest containing four small young; this was six feet up in a dwarf spruce, and on the 12th, I found another nest in all particulars like the other two, and containing four eggs almost ready to hatch. My series of 44 skins of *P. e. alascensis* confirms the distinctness of that race; the Kowak river birds present an extreme of ashness. (*Grinnell.*)

515*d*. **Kadiak Pine Grosbeak,**

Pinicola enucleator flammula (Homeyer) Ridgw. 1898.

Island of Kadiak, Alaska, and Alaskan coast southward at least to Sitka [probably coast of British Columbia at least in winter.] (*Ridgway.*)

CCIX. PYRRHULA. Brisson. 1760.

516. Cassin Bullfinch.

Pyrrhula cassini (Baird) Tristram. 1871.

The presence of this bird in the North American fauna rests solely upon the capture of a specimen at Nulato on the middle Yukon, January 10th, 1867, by Mr. Dall. (*Nelson.*)

On July 19th, 1879, in the northern waters of Cumberland gulf, Mr. Ludwig Kumlien saw a bird which he could not secure and which in his opinion was either this species or *Pyrrhula europœa*, possibly the latter. We have been unable to obtain any further records.

CCX. CARPODACUS. Kaup. 1829.

517. Purple Finch.

Carpodacus purpureus (Gmel.) Gray. 1844.

Kumlien obtained a specimen on shipboard off Resolution island; Drexler obtained it at Moose Factory, May 26th, 1860; occurs plentifully in southern portions of Labrador. (*Packard.*) Common Moose river to James bay at Moose Factory; none seen further north in 1896. (*Spreadborough.*) Common in Nova Scotia; a few stop all winter. (*Downs.*) A pair seen at Shulee, Cumberland county, N.S., January 2nd, 1899. (*Morrell.*) Bayley says this species is common at Sydney, Cape Breton island, and breeds. (*C. R. Harte.*) Common throughout the year in Nova Scotia. (*H. F. Tufts.*) Common at Margaree and Baddeck, Cape Breton island, N.S., July, 1898; breeding in the woods at Brackley point, Prince Edward island, June, 1888. (*Macoun.*) Sparingly distributed; a restless and roving species, and seen singly or in pairs on Prince Edward island. (*Dwight.*) A common resident in New Brunswick. (*Chamberlain.*) Tolerably common summer resident, but very irregular in its time of arrival in spring at Scotch Lake, York county, N.B.; nests in conifers from a few feet up in low bushes in pastures to high up in forest trees. (*W. H. Moore.*) Rather rare in the Gulf of St. Lawrence; a male seen and others heard on the Magdalen islands. (*Bishop.*) Common in the Restigouche valley, N.B. (*Brittain & Cox.*) An abundant species of

general distribution about the shores of the Gulf of St. Lawrence and its islands. (*Brewster.*) Rather common summer resident in eastern Quebec. (*Dionne.*) A common summer resident but some remain all winter. Breeds on the island of Montreal. I found a nest containing four eggs, June 20th, 1891, in Mount Royal park, built in a small spruce tree; have noticed them from February 5th to October 25th; often feeding in winter on mountain ash berries. (*Wintle.*)

A common summer resident at Ottawa, Ont.; abundant in migration. There are a few winter records of this species one of which is December 29th, 1885. (*Ottawa Naturalist*, Vol. V.) Resident at Toronto; sometimes abundant in winter. A common summer resident in the districts of Parry Sound and Muskoka. (*J. H. Fleming.*) Abundant at Câche lake, Algonquin park, Ont.; breeding in low wet woods. (*Spreadborough.*) Often seen in numbers but certainly a much less frequent summer resident than formerly. In 1886 many stayed all summer in London, Ont., where they had been scarce during several previous years. In 1899 its scarcity was remarkable. It is seen the whole year round but most noticeably common in spring. (*W. E. Saunders.*) A common migrant in spring and fall at Guelph, Ont.; arrives about April 15th and leaves about October 4th; a few breed. (*A. B. Klugh.*) This species was several times heard early on the morning of June 16th, 1900, at Bull Head point, Lake Winnipeg, where the steamer stopped for wood. (*Edward A. Preble.*)

This species was found in small numbers on Turtle mountain, Manitoba, during the latter part of July. It doubtless breeds in the locality; not seen further west. (*Coues.*) Summer resident in Manitoba; arrives about April 20th, and departs about October 15th; shot a male in full song, May 14th, 1883; it had been feeding on poplar catkins. (*E. T. Seton.*) Tolerably common at Aweme, Man., during migration. Not seen during the breeding season. (*Criddle.*) A regular migrant in Manitoba, breeding occasionally. Noted breeding at Birtle, Man., Saskatoon, Sask., and Battle river, Alta. (*Atkinson.*) First seen at Indian Head, Sask., April 21st, 1892, quite common by May 12th; a few breed there as I saw them late in June; this species arrived at Edmonton, Alta., on May 3rd, 1897, and soon commenced to nest in the

tall trees; observed one at Lake St. Anne, sixty miles from Edmonton, Alta., June 8th, 1898; a few were observed from the mouth of Lesser Slave river to Peace River Landing, Alta., in lat. 56° 15′, June, 1903; taken at Canmore, Alta., but not rare at Banff on the Bow river within the Rocky mountains, May 27th, 1891, where they were breeding; one seen in the Crow Nest pass in August, 1897. (*Spreadborough.*) This bird was seen by us only on the banks of the Saskatchewan where it feeds on willow buds. It is a summer visitor, arriving in the month of May. (*Richardson.*) The single male, secured at the Grand rapids of the Saskatchewan, agrees perfectly with this species. (*Nutting.*) Not rare at Athabaska Landing and up the Athabaska to Lesser Slave river; a few birds at Fort McMurray, but none seen up the Clearwater river, lat. 56°; not rare but local between Methye portage and Isle à la Crosse, Sask. (*J. M. Macoun.*) I saw this beautiful finch for the first time at Prince Albert, Sask., last April (1900) and beginning of May in company with juncos and tree sparrows. (*Coubeaux.*)

Breeding Notes.—Nest, built on a horizontal bough, composed of vegetable matter, fibre and rootlets, lined with hair. Eggs, four, pale dull greenish, almost white, sparsely sprinkled with blackish and lilac. (*G. R. White.*) On June 8th, 1893, at Banff, Alta., I found a nest and eggs of this species built in a willow bush five feet from the ground. (*W. Raine.*) A bird that is hardly as plentiful, apparently, in Ontario, as in former years. I have found the nest three times in Ontario, twice in a small spruce tree and once in a cedar. I also saw a nest at Lansdowne, Ont., in a small maple. This is a late breeder, all the eggs I have seen were laid in June. (*Rev. C. J. Young.*) Breeds in May and June around Ottawa, Ont., also at Lake Nomininge, 100 miles north of it. The nest is built in coniferous trees from five to fifteen feet from the ground and is composed of twigs, rootlets, vegetable down and wool with a lining of hairs. Eggs, four to five in the set. (*Garneau.*)

517*a*. **California Purple Finch.**

Carpodacus purpureus californicus Baird. 1874.

Abundant summer resident on both sides of the Coast range. (*Lord.*) Common in the coast region; few specimens were taken in purple plumage. (*Streator.*) An abundant summer resident

chiefly west of the coast range; breeds both on Vancouver and the mainland. (*Fannin.*) Common summer resident at Chilliwack, B.C. (*Brooks.*) Very common at Hastings, Port Heney and Agassiz, B.C., in April, 1889; very abundant at Chilliwack and Huntingdon, B.C., feeding on the seeds of the crab-apple, in the autumn of 1901; tolerably common near Victoria and quite common at Comox, Vancouver island, in June, 1893. (*Spreadborough.*) Found breeding on the coast of British Columbia. (*Rhoads.*)

518. Cassin Purple Finch.

Carpodacus cassini BAIRD. 1854.

Western States, from the eastern base of the Rocky mountains to the Pacific coast, and north to British Columbia. (*Ridgway.*) A few examples, probably of this species, were found breeding in the interior of British Columbia. (*Rhoads.*) Both sides of Coast range, B.C. (*Fannin.*) Summer resident at Soda creek, and probably also at Quesnel, B.C., 1901. (*Brooks.*) Taken at Spence Bridge and Kamloops in June, 1889; one specimen seen at Trail, B.C., near the International Boundary, in May, 1902; common everywhere in coniferous woods at Fernie and Elko, B.C., in May, 1904; quite common at Penticton, B.C., in April, 1903, feeding in the tops of bull pine (*Pinus ponderosa*), on their seeds; saw one there June, 1905. (*Spreadborough.*)

CCXI. PASSER BRISSON.

520. House Sparrow.

Passer domesticus (LINNÆUS) KOCH. 1816.

This species has become naturalized in all Canadian cities, towns and small villages and in many farm-yards, where it lives in winter in affluence on the oats found in the droppings of horses. It is quite abundant in the autumn, but whether it finds a scarcity of food or abundance it is always in evidence in spring, and where it once gets a foothold it retains it and spreads further. It is abundant everywhere in the eastern provinces, in the settled parts of Quebec and Ontario, and, although spoken against everywhere, it destroys an enormous quantity of noxious weeds in waste grounds and vacant places in cities and their suburbs, by eating their seeds,

in September, October and November, until the snow comes, when it takes to the streets. In 1894, a few pairs were seen near the railway station at Winnipeg, Man., since then they have spread rapidly westward. (*Macoun.*) One taken on Sable island, N.S., April, 22, 1904; two remained through the winter of 1903-4 and left April 1, 1904; several seen October 14, 1906, and one October 6, 1907. (*J. Boutelier.*) This bird is gradually extending its range westward and northwestward. I found it nesting at Yorkton, Sask., in June, 1901, and Mr. Hugh Richardson, during the summer of 1901, sent me two sets (of what he called rare eggs) of a bird that had never been seen before in the Qu'Appelle valley, Sask., a bird unknown to him, and they turned out to be only eggs of the English sparrow. I have no record of this bird from Alberta, but it is only a matter of time when it will extend its range right to the Rocky mountain foothills. (*W. Raine.*) Observed at Missinabi and at the mouth of Hannah river, James bay, where they seemed as much at home around our tents as they would be in the heart of a large town. I also saw one about seventy miles north of Albany, on the west coast of James bay. (*Spreadborough.*)

CCXII. **LOXIA** Linnæus. 1758.

521. American Crossbill.

Loxia curvirostra minor (Brehm) Ridgw. 1885.

One specimen taken in Hudson strait. It flew on board ship and was presented by Dr. Matthews. (*Dr. R. Bell.*) Common throughout the year on Newfoundland. (*Reeks.*) Common; arrives after the breeding season in Nova Scotia. (*Downs.*) Some years very abundant in Nova Scotia during the whole twelve months, but mostly irregular. Numbers nested about Wolfville during winter of 1906. (*H. F. Tufts.*) Three seen on Sable island, N.S., July 2nd, 1902; one seen June 20, 1904; one June 25, 1905, and about a dozen July 21, 1907. (*J. Boutelier.*) I did not see this species in Cumberland county, N.S., until March, when it became common; at that time the males were in full song, and the birds were paired, male and female always being seen together. I judged both this and the next species would breed in April. (*Morrell.*) Common in woods at Baddeck and Margaree, Cape Breton island, July, 1898; in spruce trees at Brackley point, Prince Edward island, Aguust, 12

1888. (*Macoun.*) Abundant in flocks, mixed with the following species, feeding chiefly on larch trees on Prince Edward island. (*Dwight.*) A rather common resident in New Brunswick. (*Chamberlain.*) Not uncommon in the Restigouche valley, N.B. (*Brittain & Cox.*) Rare on the Magdalen islands; a male seen on Grindstone island. (*Bishop.*) Taken at Charlesbourg; common summer resident in eastern Quebec. (*Dionne.*) A transient visitant but common; they are very erratic in their movements and may appear at Montreal at any time during the year, but I have never heard of them breeding in this district; I saw a small flock of this species May 14th, 1883, at Côte St. Antoine, feeding on the cones of a larch tree. (*Wintle.*) A common summer visitor at Scotch Lake, York county, N.B. (*W. H. Moore.*) A common winter resident at Ottawa, Ont. The summer records are as follows: May 10, 1882; August 4, 1887; June 19, 1889, and July 3, 1890. (*Ottawa Naturalist*, Vol. V.) In the winter of 1897 this bird was very common in Ontario; and in 1898 I saw a pair at Lansdowne in the month of April. They frequented some hemlock trees in the village, but I could never make out that they were breeding. Since that year I have scarcely seen one. (*Rev. C. J. Young.*) Resident in the districts of Parry Sound and Muskoka. They gather in immense flocks and come into the settlement or about the lumber shanties. Irregular winter visitor at Toronto, Ont. (*J.H. Fleming.*) There were enormous numbers of this bird in the vicinity of Whitney near Algonquin park, Ont., in November and December, 1898; and in the following April there was an extraordinary migration to the neighbourhood of Toronto, many remaining till the third week in May. It is possible that the Whitney hordes may have wandered south which would account for a visit in such numbers to this locality on the return trip. (*J. Hughes-Samuel.*) Saw a small flock both old and young at Câche lake, Algonquin park, July 2, 1900. (*Spreadborough.*) A winter visitor at Guelph, Ont. (*A. B. Klugh.*) Transient visitant at Penetanguishene, Ont. Have noticed some immense flocks at rare intervals. (*A. F. Young.*) A small flock seen at our camp on Echiamamish river, Keewatin, June 25, 1900. (*Edward A. Preble.*)

A winter visitant in Manitoba; possibly also breeding. In Manitoba I failed to detect its presence excepting during winter and spring. It is common wherever there is plenty of spruce and tamarac, for the seeds of those are its favourite food. Saw one at Great Slave

River delta, September 28, 1907. (*E. T. Seton.*) Rare at Aweme, Man.; seen in spruce woods in winter. (*Criddle.*) An erratic visitor throughout Manitoba in winter, appearing suddenly at any season and then being absent for many seasons. Observed along the G.T.P. railway in 1906 at Hamiota and Birtle, Man.; at White Shore lake, Tramping lake and Manito lake, Sask., and at Battle river and Edmonton, Alta. (*Atkinson.*) I saw a flock of six crossbills flying over me in the Cypress hills, Sask., which I suppose were this species. (*A. C. Bent.*) One pair on Methye portage; very common on Methye river and not rare to Isle à la Crosse, Sask. (*J. M. Macoun.*) Several birds resembling the published description of this species were seen at Fort Anderson, but none taken. (*Macfarlane.*) Three individuals were observed at Indian Head, Sask., on June 27th, 1892; three days later a large flock was seen; this species was found in flocks in the Cypress hills, Sask., from the middle of June to the end of the month, both in 1894 and 1895; it is extremely probable that this species nests in the Cypress hills, as they seemed perfectly at home there feeding on the spruce trees; observed a pair on August 7th, 1897, in Crow Nest pass, Rocky mountains; seen in large flocks at Banff, Rocky mountains, in June, 1891, very likely breed there; taken on the mountains at Deer park, Arrow lake, B.C., June 6th, 1890; not uncommon on the mountains on both sides of Pass creek near Robson, B.C., June 24th, 1890; common at Midway, B.C., May, 1905; taken on the mountains at Spence Bridge, B.C., May 28th, 1889, and in flocks at Agassiz; common at Chilliwack, B.C., in the spring of 1901, and at several places along the Chilliwack river in 1906; abundant at Penticton, feeding on seeds of bull pine, April, 1903; a common summer resident an Vancouver island; flocks seen almost every day near Victoria in the spring of 1893; also at Salt Spring island and Comox, the same year. (*Spreadborough.*) An abundant summer resident on both sides of the Coast range. (*Lord.*) From July 16th to September, pairs were seen about Ducks, B.C., flying from tree to tree looking for food. Later, a few flocks were seen on the coast flying south. (*Streator.*) An abundant resident throughout the province. (*Fannin.*) Tolerably common; an irregular visitant to the lower Fraser valley; resident in the mountains; common in Cariboo district in the winter of 1899 and summer of 1900; abundant at Okanagan, B.C., in the winter of 1897-98. (*Brooks.*) Coextensive with coniferous forests at all elevations, east and west

of Coast range, B.C. (*Rhoads.*) Along the southeastern coast of the territory in the vicinity of Sitka and the adjoining regions, this is a rather common bird but in only one instance has it been taken north of the Alaskan mountains. (*Nelson.*) Flocks of these birds frequented the tops of the tallest firs at Sitka, Alaska, where on account of their quietness they may easily escape notice. (*Grinnell.*) Osgood took a red crossbill and saw another at Unalaska, October 5th, 1899. We did not see any on the Yukon. (*Bishop.*)

Breeding Notes.—I have a set of four eggs collected by L. Dicks, at Cartwright, Labrador, April 20th, 1895. The nest was built in the top of a cedar, [?] and was composed externally of twigs and roots, and the interior lined with animal fur and feathers. The eggs are greenish-white, spotted chiefly at the larger end with dark brown and grey and average in size .75 x .58. (*W. Raine.*) Mr. H. F. Tufts found many nests of the American crossbill near Wolfville, N.S., in the winter and spring of 1906, and published in *The Auk*, Vol. XXIII., page 339, a detailed account of the circumstances under which they were found. The first nests were discovered January 31st. Two contained young just hatched, the others eggs advanced in incubation. Many nests were found during the following months, the birds continuing breeding until June. The nests were found in spruces, firs and hemlocks at elevations ranging from 10 to 80 feet.

522. White-winged Crossbill.

Loxia leucoptera Gmel. 1788.

A rare straggler in Greenland; a few taken in south Greenland. (*Arct. Man.*) Abundant at Fort Chimo, Labrador, some winters; rare during other winters; none observed during summer; breeds in central portion of Labrador and resident there. (*Packard.*) Common throughout the year in Newfoundland. (*Reeks.*) Irregularly abundant after the breeding season in Nova Scotia. (*Downs.*) Occasionally seen in flocks at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; a very large flock in spruce woods at Brackley point, Prince Edward island, June, 1888. (*Macoun.*) Seen in flocks on Sable island, N.S., October 22, 1907. (*J. Boutelier.*) Rather common on Prince Edward island. (*Dwight.*) Very erratic. Remained at Sydney, Cape Breton island, all winter, 1898-99, and

bred freely the following February and March. Ivan Bayley found many nests. The birds left very suddenly in April, leaving several broods of young. (*C. R. Harte.*) Usually occur with the American crossbill in Nova Scotia, though in smaller numbers. (*H. F. Tufts.*)

Common winter resident at St. John, N.B.; a few breed every spring. (*Chamberlain.*) On July 24th I observed a flock of eight or ten individuals at Ellis bay, Anticosti. (*Brewster.*) Seen during the winter at Lake Mistassini, Quebec. (*J. M. Macoun.*) Common on Grindstone and Entry islands, and probably on other islands of the Magdalen islands. (*Bishop.*) Common winter visitor at Scotch Lake, York county, N.B., in 1899, previously rare. (*W. H. Moore.*) A common summer resident in eastern Quebec. (*Dionne.*) A common but transient visitor at Montreal. I saw a flock of this species feeding on the cones of cedar trees at Hochelaga, Que., on December 8th, 1888. (*Wintle.*)

A large flock of this species was seen near Beechwood cemetery, Ottawa, Ont,. in June, 1882. (*Ottawa Naturalist,* Vol. V.) I saw this bird commonly in the Magdalen islands in the month of June, 1897, and have no doubt but that it breeds there in the spruce woods though I could not with certainty locate a nest. In that same year, in the month of April, I saw three of these birds on an island in the St. Lawrence, near Lansdowne, Ont., feeding on some hemlock trees and frequently alighting on the ground in search of hemlock seeds. (*Rev. C. J. Young.*) Irregular winter resident at Toronto, Ont.; never very common. Not as abundant as the preceding, but found in Parry Sound and Muskoka districts. (*J. H. Fleming.*) A few seen almost every season, but never really abundant, at Toronto; I found them particularly abundant at Whitney, near Algonquin park, Ont., in the fall of 1898, and fairly so at Kaladar, Addington county, December, 1894. (*J. Hughes-Samuel.*) An infrequent winter visitor at Guelph, Ont. (*A. B. Klugh.*) A male and female taken at Fort Churchill, Hudson bay. (*Clarke.*)

A winter visitant; possibly resident and breeding. On December 6th, 1882, at the spruce bush, 35° below zero, shot three individuals out of a small flock that was feeding on the cones of a tall spruce. These were all males. (*E. T. Seton.*) Common at Aweme, Man., in autumn and winter in open woods. (*Criddle.*) A rare and irregular visitor in Manitoba, keeping more to the evergreen woods.

Only two records for Portage la Prairie. (*Atkinson.*) Common on Methye river in flocks; a few between that river and Isle à la Crosse, Sask. (*J. M. Macoun.*) Saw several on Macleod river, west of Edmonton, Alta., June 19, 1898. Quite common in the woods at Banff, Rocky mountains, and evidently breeding in the summer of 1891; two seen in the Crow Nest pass in 1897. (*Spreadborough.*) This crossbill inhabits the dense spruce forests of the Northwest Territories, feeding principally on the seeds of the cones. It ranges through the whole breadth of the continent and probably up to lat, 68°, where the woods terminate, though it was not observed by us north of lat. 63°. (*Richardson.*) North to Fort Good Hope on the Mackenzie river. (*Ross.*) A pair of this species was obtained during our residence at Fort Anderson but no nests were seen. (*Macfarlane.*) Rocky mountain district; Beaver pass, B.C., by Mr. Geo. Hyde. (*Fannin.*) Three specimens taken at Chilliwack, B.C.; quite abundant in the Cariboo district in the winter of 1898-99 and common in the summer of 1900. (*Brooks.*) Common on Queen Charlotte islands, B.C., but no specimens were taken; common at Cook inlet, Alaska, but always in pairs. (*Osgood.*) Although the last species is thus far known only as an excessively rare visitant in the northern portion of Alaska, the present bird is found in the greatest abundance wherever trees occur to afford shelter. (*Nelson.*) This species is abundant in the interior of the Yukon district and other wooded parts. It only occasionally visits St. Michael and then never in large flocks. (*Turner.*) This species was a common resident throughout the year in certain parts of the Kowak valley, Kotzebue sound. They were always to be found along the bases of the mountains, especially in the tracts of small spruces bearing great clusters of cones. (*Grinnell.*) Crossbills in flocks of from half a dozen to one hundred individuals were often seen from Lake Lebarge to Charlie village, July 16th to August 11th, 1899, on the Yukon river, Yukon district. (*Bishop.*) One adult male was taken at Sheep creek, Alaska, August 7, 1903 and a female, September 9. (*Anderson.*)

Breeding Notes.—On April 26th I found a regular paradise for crossbills. It was a stretch of the requisite dwarf spruce lying along the Jade mountains near the head of Hunt river. Here I met with several flocks of white-winged crossbills which, from their unusually lively behaviour, indicated the mating season to be at

hand. Two or three pairs were apparently already mated, for they were detached from the main flock, each by itself. The males were singing very loudly a twitter somewhat resembling that of the American goldfinch, but coarser. The females were shy, flying covertly from tree to tree and darting through the foliage to avoid the officious advances of the males, who were following them. The latter flew in broad circles above the females, with slowly beating wings, singing continuously, and finally settling on quivering, outstretched wings in a tree top. I visited this locality again on the 28th May, and was fortunate enough to find three nests of the white-winged crossbill. On this date the large flocks had scattered out, and the birds were mostly seen singly or in pairs. Two or three companies of a dozen or so were noted, these probably being non-breeders or yearlings. The first nest was found by spotting a pair of birds and closely watching their movements. They were feeding when first noted, but in a few minutes I suddenly lost sight of the female, although the male remained in the vicinity, frequently uttering the metallic call-note previously described. After waiting some time, I proceeded to the tree where the female was last seen. On vigorously shaking the tree several times she flew out of a dense clump of branches and perched a few yards off, chirping solicitously. Both birds soon left the vicinity and did not return while I remained. The nest was situated close to the trunk, ten feet above the ground, in a mass of foliage so thick as to entirely hide it from view. It contained two eggs about one-third incubated. These are ovate and measure .86 x .61, .84 x .60. The ground colour is an extremely pale tint of blue. One egg has scattering ill-defined spots and blotches of pale chocolate. The other egg has numerous very pale lavender markings, and, mostly at the larger end, a number of spots and four large blotches of dark seal-brown. The second nest was found through locating a male bird by its call-note, and then tapping every tree in the vicinity with a stick. The female was thus flushed from her nest, which was twelve feet up near the top of a dwarf spruce. It was embedded in a mass of foliage against the stem of the tree, much as in the case of the first nest. It contained two pipped eggs and one newly hatched young. The parents evinced more solicitude in this case, chirping and flying from tree to tree. The third nest was found similarly, though the female left the nest unobserved and I had to wait until she returned to be able to locate

the nest. This was fifteen feet from the ground, hidden in the dense spruce top, as before. There was but one fresh egg. This measures .77 x .58. It is almost white (before blown, pinkish) with scattering, abruptly-defined spots and lines of bay and fawn colour, most numerous at the larger end. The three nests are just alike in every way. They consist externally of short dry spruce twigs; and internally of a black wool-like lichen, closely felted, and with a scanty admixture of feathers and bits of grasses. The nests are nearly black, and thus present an odd appearance as compared with those of the usual consistency of other birds. The nest measurements are: internal diameter 2.20, depth 1.20; external diameter 4.00, depth 2.50. (*Grinnell.*) I have a set of four eggs taken at Sandwich bay, Labrador, April 9th, 1894, by L. Dicks. The nest is made of fine roots and twigs, lined with moss and animals' fur, and the four eggs are pale bluish-white, spotted at the larger ends with brown of various shades, black and lilac grey. The eggs of the two species of crossbill are seldom obtained, for like the Canada jay they have eggs while the snow is on the ground very early in the spring and at a time when it is difficult to get into the woods on account of the snow. (*W. Raine.*) Mr. H. F. Tufts published in *The Auk*, Vol. XXIII., p. 339, an account of the finding of several nests of this species. Nests with young were found January 31, 1906, and they were still nesting in May. He records the finding of a nest with young on August 4, All the nests were found in spruce, some as high as 70 feet up, others in small trees and placed near the ground.

CCXIII. **LEUCOSTICTE** Swainson. 1831.

523. Aleutian Leucosticte.

Leucosticte griseonucha (Brandt) Bonap. 1850.

East and west of the Coast range; tolerably common. (*Fannin.*) On the Aleutian islands, from one extremity to the other, is found this large and beautiful finch, extending its habitat thence north to include the Pribilof islands and the small island of St. Matthew still further to the north. East of the Aleutian chain it reaches Kadiak island. On all these islands, except one or two exceptions, it is a permanent resident. (*Nelson.*) This species is common on all the Aleutian islands, including the Pribilof islands, and has also

been observed on Kadiak island. (*Turner.*) We saw a number of this species on St. George island, Behring sea, October 3rd, 1899. At Unalaska, I saw a flock of about twenty and another of two young birds on the 5th. (*Bishop.*) I have a nest of four eggs that were collected at St. George island, Behring sea, June 8th, 1897, by Mr. J. M. Macoun. The nest is composed of fine roots and grass lined with fine grass. The eggs are usually white, but are sometimes finely spotted with pale rusty brown, and average .98 x .70. (*W. Raine.*)

523. Kadiak Leucosticte.

Leucosticte kadiaka McGregor. 1901.

Karluk, Kadiak island, Alaska. Known only from Kadiak island. (*The Condor*, Vol. III., 8.)

524. Gray-crowned Leucosticte.

Leucosticte tephrocotis Swains. 1831.

One specimen, taken near Birtle, Manitoba, in January, 1891, by Mr. George Copeland; also two specimens in museum at Winnipeg, taken by Mr. Hine. (*E. T. Seton.*) Of this new and striking species only one specimen was obtained, which was killed on the Saskatchewan in May, 1827. (*Richardson.*) Rocky mountain district; in winter occasionally west of the Coast range. (*Fannin.*) Summits of the Rocky mountains; very rare. Breeds at an altitude of 7,000 feet. (*Lord.*) This species was first seen on the summit of Avalanche mountain, Selkirk mountains, B.C., August 4th, 1885; there was a pair of old birds and four young ones, they were quite tame; later in the season specimens were taken at Hector, Rocky mountains. Found on the summits of all the mountains around Banff in the summer of 1891 and on the high mountains to the southeast in 1897; they certainly breed on all mountains above 7,500 feet; observed, above the timber line on all the mountains ascended around the sources of the Athabaska river in 1898; observed four on a mountain about 15 miles south of Hope, B.C., alt., 6,000 feet; common on the mountains between the Skagit river and Chilliwack lake in July, 1905, at an altitude of 5,000 feet and upwards. (*Spreadborough.*) I have taken the typical species as far west as Chilliwack, B.C.; a large flock seen once or twice on mountains to the west of

Lake Okanagan; the typical species breeds on the high mountains near Barkerville, Cariboo district, B.C. (*Brooks.*) A flock of three birds was seen near Field, Rocky mountains, B.C. (*Rhoads.*)

Breeding Notes.—As the nest and eggs of this bird have never been recorded, I am pleased to describe them for the first time. I have a nest of four eggs with the parent bird that were taken at Banff, Rocky mountains, Alta., on June 9th, 1892, by Mr. Wm. Fear. The nest is made of roots and fine bark lined with fine grass and was built in a crevice of a rock, and the eggs are pure white, averaging .90 x .65. (*W. Raine.*)

524*a*. Hepburn Leucosticte.

Leucosticte tephrocotis littoralis (Baird) Coues. 1872.

The types of this form came from Sitka, and since then specimens have been obtained from Sitka, Kadiak, British Columbia, Wyoming and Rocky mountain region as far south as Colorado. (*Nelson.*) Abundant summer resident on both sides of the Coast range. (*Lord.*) We found this bird only at the summit of the White pass, head of Lynn canal. (*Bishop.*) From the coast to the Rocky mountains; at Ashcroft, Clinton and Burrard inlet. Taken at Port Simpson by Mr. W. B. Anderson. (*Fannin.*) Rare winter visitant at Chilliwack; breeds above the timber line in the Coast range; some of the specimens seen at Lake Okanagan may have been this species; typical specimens taken in the winter in the Cariboo district, B.C. (*Brooks.*) Found tolerably common on the summit of Mount Arrowsmith, Vancouver island, July 19th, 1887. (*Macoun.*) One specimen seen on top of a mountain at the foot of Chilliwack lake, B.C., July 20th, 1901. (*Spreadborough.*)

European Linnet.

Linota cannabina L.

Two specimens were seen in a flock of English sparrows at Toronto, Ont. in January, 1890, by Mr. Wm. Loan who took one alive. This bird was identified by Mr. Ernest Seton who says : "The question how the birds came here is not easily answered for this could not have been a cage bird escaped as its breast still bore the rosy tinge that so soon is lost in captivity." (*J. H. Fleming.*)

CCXIV. ACANTHIS Bechstein. 1803.

527. Greenland Redpoll.

Acanthis hornemannii (Holb.) Stejn. 1884.

Said to be constantly resident in Greenland and a regular breeder but no further south than lat. 70° north. (*Arct. Man.*) Very abundant in winter in northern Labrador. Not occurring in summer from May 15th to September 1st of each year. (*Packard.*) Fort Churchill, Hudson bay. (*Clarke.*)

About the year 1863, a friend who used to join me in some of my local collecting trips, was in the town of Galt, Ont., and seeing a small flock of large light-coloured redpolls, secured two of the lot and sent them to me in the flesh. (*McIlwraith.*)

527*a*. Hoary Redpoll.

Acanthis hornemannii exilipes (Coues) Stejn. 1884.

Abundant and resident in Labrador; breeds plentifully at Fort Chimo, where nests and eggs were obtained by Nelson. (*Packard.*)

A small flock observed by me at Lansdowne, Ont., in March, 1897, feeding on the ground on hemlock seeds. (*Rev. C. J. Young.*) Specimens of this bird, taken by Mr. W. L. Scott in the spring of 1883, were identified by Dr. Coues. It is also included in the list of arrivals for 1887 on March 19th. (*Ottawa Naturalist*, Vol. V.) Irregular winter resident at Toronto, Ont.; during the winter of 1896 a flock of redpolls was observed at East Toronto; I secured nine specimens from what I was given to understand was the same flock. Mr. Ridgway identified them all as *Acanthis exilipes*. The specimens were taken in February and March, 1897. I have examined a specimen taken by Mr. Kay at Port Sydney, Muskoka district. (*J. H. Fleming.*) One specimen killed out of a large flock of redpolls at Hamilton beach, Ont., by Mr. K. C. McIlwraith on 6th April, 1885. (*McIlwraith.*) In the early spring of 1881 these birds appeared near London, Ont., in considerable number but have not been seen since that time. (*W. E. Saunders.*) Three specimens from York Factory and one from Fort Churchill, Hudson bay collected in July, 1900, are referable to this form. (*E. A. Preble.*)

Sometimes rather common in autumn and winter at Aweme, Man. (*Criddle.*) Found regularly among the large flocks of mixed redpolls every winter in Manitoba generally. (*Atkinson.*)

A migrant and winter visitant in Manitoba. Specimens were taken at Carberry in the early winter from a flock of *A. linaria.* (*E. T. Seton.*) Quite numerous in flocks of the common redpoll at Indian Head, Sask., which were common from April 1st to 20th, 1892. (*Spreadborough.*) Carlton House, on the South Saskatchewan, November to March. (*Blakiston* vide *Ridgway.*) North to Lapierre House on the Mackenzie river; common. (*Ross.*) I carefully examined all flocks of redpolls in the winter of 1897-98 in the Cariboo district, B.C., and only secured one specimen that showed any approach to *exilipes.* (*Brooks.*) This is the prevailing species of the genus throughout northern Alaska, where it occurs in great numbers. It is indistinguishable from the common redpoll except for the differences in colouration and is constantly associated with them. (*Nelson.*) This species is a common bird throughout the entire territory of Alaska. (*Turner.*) This species is not common at Point Barrow, and only of irregular occurrence. We only obtained one nest and saw very few birds. (*Murdoch.*) The hoary redpoll was a common resident throughout the region around Kotzebue sound. Out of 112 skins taken, 104 were of this species. (*Grinnell.*) Sixteen specimens taken at Point Barrow, Alaska, exhibit very little variation. (*Witmer Stone.*) I secured two young from a flock about fifteen miles above Circle City, Alaska, August 13th, 1899; and Osgood one, on the 19th, from a flock at Circle City; rather common in small flocks at St. Michael in September. (*Bishop.*)

Breeding Notes.—The hoary redpoll was a common resident throughout the region under consideration. At Cape Blossom during July, 1898, they were mainly in pairs, though small companies of from four to eight were occasionally seen. They frequented the dwarf willow and alder patches, especially among the hills back from the coast. Two nests were found on the 20th of July. They were each built in the crotches of low bushes about two feet from the ground, and were only one hundred feet apart on a slope sparsely covered with small bushes. The nests were composed of dried mildewed grasses externally, with a thick lining of cottony down from the seed-cases of a kind of grass, and a few feathers. One of

the nests contained four eggs and the other five. Both sets were far advanced in incubation and the latter set contained one infertile egg. The female birds were sitting closely when the nests were discovered, and in both cases I nearly touched them before they slipped from the nests. They darted quickly out of sight, making no solicitous demonstrations whatever. Another nest was found near Cape Blossom on July 1st, 1899. This was in every way similar to the other two, and contained four slightly incubated eggs. As the month of May advanced the flocks of redpolls began to break up though the pairs were prone to stay within call of each other, a sociable trait. The first nest was found on June 4th and contained five badly incubated eggs. This indicates that nesting begins soon after the middle of May. Another nest, containing five slightly incubated eggs, was taken on the 5th; the nest was saddled in the forks of a leafless willow above water at the margin of an ice-covered lake. This nest may be described as typical of the ones found in the Kowak valley. It is a very compact and well proportioned structure of fine dry rootlets, grasses and slender plant-stems lined with soft white willow down and a few ptarmigan feathers. The diameter of the nest cavity is 1.70, and the depth 1.25 ; external diameter, 4.00; depth, 2.10. A nest of five fresh eggs, taken on June 6th, was nine feet above the ground in the top of a small spruce at the edge of a dense strip of timber. The eggs of the hoary redpoll are pale Nile blue, with spots, lines, dots and scrawls of vinaceous, lavender, chocolate and so dark a brown as to appear black in some cases. These markings tend to form wreaths about the larger ends of many eggs. The eggs vary in shape from ovate to short-ovate. (*Grinnell.*) I have six nests with sets of eggs of this species. They were collected at Peel river, Mackenzie-delta, by the Rev. I. O. Stringer, who has just returned from that far away northern region after spending eight years among the Eskimos. The nests are beautiful structures of fine twigs and roots felted together with vegetable down, and snugly lined with down and feathers. One nest, taken July 19th, 1898, was built in a willow only two feet from the ground, and contained four eggs. Another nest was built in a small shrub less than one foot from the ground, and contained five eggs, averaging in size .68 x .52. The Eskimo name for this bird is "Peôgwak." (*W. Raine.*)

528. **Redpoll.**

Acanthis linaria (LINN.) BONAP. & SCHLEG. 1850.

Abundant and resident in Labrador. Breeds plentifully at Fort Chimo, where nests and eggs were obtained by Nelson. (*Packard.*) One seen on James bay, June 15th; a few observed at Great Whale river. Common from Richmond gulf, across the interior to Ungava bay; seen in large flocks at Fort Chimo in September, 1896. (*Spreadborough.*) Very common everywhere along the northeastern coast of Labrador; apparently all the redpolls belonged to this race. (*Bigelow.*) Very common resident in Newfoundland, does not migrate. (*Reeks.*) Rather common in winter in Nova Scotia. (*Downs.*) Said to be common in winter at Sydney, Cape Breton island; saw a flock, December 10th, 1901. (*C. R. Harte.*) Common some winters in Nova Scotia, in others they are absent. (*H. F. Tufts.*) Two specimens seen on Sable island, N.S., May 3rd, 1902. A flock seen, March 4th, 1904. (*J. Boutelier.*) In the spruce trees by the beach, Brackley point, Prince Edward island, June 27th, 1888. (*Macoun.*) A winter visitant in New Brunswick; some winters quite common. (*Chamberlain.*) A winter visitor at Scotch Lake, York county, N.B.; sometimes common, sometimes rare. (*W. H. Moore.*) Seen during the winter at Lake Mistassini, northern Quebec. (*J. M. Macoun.*) Taken at Beauport; winter resident in eastern Quebec. (*Dionne.*) An abundant winter visitant at Montreal; observed there in flocks from October 25th to April 29th; the latter date is late in the spring of the year to find the species at Montreal, although in 1883, I saw large numbers in the month of May feeding on the ground in the woods in Hochelaga. (*Wintle.*) An abundant winter visitor at Ottawa. Summer records are June 6, 1882; June 3, 1888; and May 22, 1890. (*Ottawa Naturalist,* Vol. V.) Common in eastern Ontario during winter and early spring. This year, 1907, I observed them as late as April 14th. Several males in a flock had noticeable rose-tinted breasts. A few nest in scrubby spruce trees in the Magdalen islands in the month of May. (*Rev. C. J. Young.*) An irregular winter visitor at Guelph, Ont. (*A. B. Klugh.*) Irregular winter visitant at Toronto, Ont.; sometimes seen from November until March. An abundant winter visitor in the Parry Sound and Muskoka districts, often remaining to the beginning of May. (*J. H. Fleming.*) A winter visitor, usually

rare but sometimes quite common as in the winter of 1906-07. (*W. E. Saunders.*) Abundant winter visitant at Penetanguishene early in October. (*A. F. Young.*) Eight specimens, including one in juvenal plumage, were collected at York Factory, Hudson bay, July 12th to 16th, 1900, where the birds were abundant, and a very bright male was taken at Fort Churchill, July 23rd. (*E. A. Preble.*) A few seen about the ship in the spring at Fullerton, Hudson bay in 1903 ; common on the east side of Hudson bay to the northern tree limit. (*A. P. Low.*)

An abundant fall and winter visitor in Manitoba; feeding on the seeds of various plants. (*E. T. Seton.*) Abundant winter resident at Aweme, Man. (*Criddle.*) Very abundant winter resident throughout Manitoba, but not known to breed. (*Atkinson.*) A few specimens were seen on the Clearwater river below Methye portage; common on the portage. (*J. M. Macoun.*) A common and regular winter visitor near Prince Albert, Sask., arriving in small flocks nearly at the same time as the pine grosbeak and remaining sometimes late in the spring. (*Coubeaux.*) This neat and hardy bird is one of the permanent residents in the Northwest Territories where it may be seen in the coldest weather on the banks of lakes and rivers, hopping among reeds and carices or clinging to their stalks. (*Richardson.*) North to Fort Good Hope on the Mackenzie river; abundant. (*Ross.*) Common on Pike portage, 10 miles east of Fort Reliance, July 30, 1907, and thence northward to the edge of the woods. Evidently on its breeding grounds. (*E. T. Seton.*) This species was just as abundant as the Greenland redpoll in the wooded country, and we procured as many nests as of it. (*Macfarlane.*) This species was seen in large flocks at Indian Head, Sask., during the first three weeks of April, 1892, after which they all disappeared. April 7th, 1894, saw a flock of sixteen at Medicine Hat, Sask.; two specimens were seen at Edmonton, Alta. on April 19th, 1897 ; common in flocks around Revelstoke, B.C., up to the last of April, 1890; seen at the lower end of Lower Arrow lake, Columbia river, June 18th, 1890. (*Spreadborough.*) An abundant summer resident in British Columbia. (*Lord.*) Common throughout the province. (*Fannin.*) Irregular winter visitant at Chilliwack; common winter resident at Lake Okanagan, B.C., also common in the Cariboo district in winter. (*Brooks.*) This species is found in Alaska in smaller numbers than the preceding. On the southeastern coast of the ter-

ritory, including Kadiak and the Sitkan region, the present bird is found to the exclusion of the other. (*Nelson.*) This species is a common resident of all parts of Alaska, excepting the Aleutian islands. In the latter district it is a summer visitor only; though breeding there I have never observed it west of Unalaska island. (*Turner.*) Large flocks were seen frequently both at Hope and Tyonek, Cook inlet, Alaska, in August, 1900. (*Osgood.*) Of the 112 skins taken at Kotzebue sound, only seven were referable to this species. Although few were taken they evidently breed in the country as specimens were taken from March to October. (*Grinnell.*) Noted at Seldovia and Sheep creek, Kenai peninsula, Alaska. (*Anderson.*) We saw several, usually in pairs and very shy, at Bennett, B.C., June 17th, 1899, and near Charlie village a fine male. (*Bishop.*)

Breeding Notes.—During the last week of May and early in June, 1899, Mr. A. P. Low found this bird breeding abundantly at the mouth of the Great Whale river, Hudson bay, and I secured close upon 150 eggs of this species that were then collected. The nests were built low down in stunted willows, not more than two or three feet from the ground and contained five or six eggs each. I have also several sets that were taken at Cartwright, Labrador, by the late Lambert Dicks during June, 1895. On June 20th, 1890, Mr. Stringer found several nests at the delta of the Mackenzie river, 100 miles from its mouth. Here the nests were built in willows two or three feet from the ground and contained four and five eggs each. I have three nests collected by Mr. Stringer, and they are beautifully and compactly built, externally of fine roots and grass, inside felted with down and feathers. (*W. Raine.*) A small nest was found in a spruce tree about six feet from the ground on the Magdalen islands, June 29th, 1905. It was placed near the trunk of the tree and was a dainty affair, neat and rather compact, composed of coarse grass and a goodly quantity of rein deer moss lined with feather. The nest was about $3\frac{1}{2}$ inches in diameter. (*J. P. Callender.*)

528*a*. **Hobœll Redpoll.**

Acanthis linaria holbœllii (Brehm) Dubois. 1871.

This species was caught in a thick fog in Grinnell bay, September 3rd, 1877. (*Kumlien.*) Rather common in winter at Fort Chimo,

Labrador; none to be seen from May 15th to September 1st of each year. (*Packard.*) This species is not uncommon in eastern Quebec, mixed up in the flocks of *A. linaria.* (*Dionne.*) One specimen taken at Moose Factory, James bay, is in the National Museum at Washington. (*E. A. Preble.*)

A specimen taken by Mr. Kay at Port Sydney, Muskoka district, on April 14th, 1890, was identified at Washington as this subspecies. (*J. H. Fleming.*) Three specimens, one male, taken March 3rd, and a male and female taken March 15th, 1888, at Lorne park, near Toronto, Ont., were determined to be this form by Mr. Ridgway. (*E. T. Seton* in *Trans. Can. Inst.*, III., 1892, p. 64.) This species is quite regularly taken among the visiting redpolls in Manitoba. (*Atkinson.*) One specimen of this race was taken on the Kowak river, April 10th, 1899. (*Grinnell.*) Breeding on Herschell island and other Arctic islands. (*Ridgway.*)

528*b*. **Greater Redpoll.**

Acanthis linaria rostrata (COUES) STEIN. 1884.

Said to breed generally throughout Greenland, suitable localities being of course understood, but is migratory there. (*Arct. Man.*) A specimen of what seems to be this species was taken by Mr. A. P. Low off the Labrador coast. (*Rev. G. Eifrig.*) Occasionally met with in New Brunswick. (*Chamberlain.*) Among a number of redpolls from Parry Sound district examined by Mr. Ridgway were specimens intermediate between this species and *A. linaria.* I have, however, seen typical specimens from Muskoka; occurs in Toronto regularly in flocks of *A. linaria.* (*J. H. Fleming.*) Among a number of redpolls sent to Washington for determination by Mr. Ridgway is a young male taken at Toronto by Mr. Cross on February 10th, 1890, and an adult female taken at Lorne park, November 9th, 1899, which were pronounced the greater redpoll. (*E. T. Seton* in *Trans. Can. Inst.*, III., 1892, p. 64.) Very rare at Aweme, Man. (*Criddle.*) A few specimens have been taken at Portage la Prairie from among large mixed flocks of redpolls. (*Atkinson.*)

BREEDING NOTES.—A few pairs breed in northern Labrador, though its summer home is in Greenland. I have three sets of eggs of this bird that were collected by Mr. Ford at Ungava bay, northern

Labrador, June 15th, 1894. The nests were built in willows two or three feet from the ground and contained five eggs each, which are easily distinguished from the common redpoll by their larger size. This bird is more abundant in south Greenland. (*W. Raine.*)

Goldfinch.

Carduelis elegans STEPHENS. 1826.

A male European goldfinch was collected May 21st, 1887, by Daniel S. Cox, about a mile north of Toronto city limits—one out of four—while resting on the top of a beech tree. The remaining three flew off in a northerly direction. The birds were evidently in a natural condition and migrants from the south, doubtless from the New York colony. (*William Brodie* in *The Auk*, Vol. V., p. 211.)

CCXV. **ASTRAGALINUS** CABANIS. 1851.

529. American Goldfinch.

Astragalinus tristis (LINN.) CAB. 1851.

Kumlien caught an adult male on shipboard off Cape Mugford, Labrador (?), August 22nd, 1877; occurs in southern portions of Labrador. Nelson writes that a bird called a "goldfinch" was described accurately and asserted to occur occasionally at Fort Chimo, but he did not succeed in finding it. (*Packard.*) A common summer migrant in Newfoundland. (*Reeks.*) Heard but not seen along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*) Common; a few remain all winter in Nova Scotia. (*Downs.*) A few seen at Baddeck and Margaree, Cape Breton island, July, 1898; one pair seen on Winsloe road, Prince Edward island, July 21st, 1888. (*Macoun.*) A few seen almost daily when on Prince Edward island. (*Dwight.*) Mr. Bayley says it is common at Sydney, Cape Breton island, breeding late in June; first seen, May 24th, 1891. (*C. R. Harte.*) Fairly common throughout the year in Nova Scotia. (*H. F. Tufts.*) An abundant summer resident in New Brunswick. (*Chamberlain.*) Irregular in arriving in spring at Scotch Lake, York county, N.B.; coming from February 16th to May 28th; departing from October to December. Its nests are placed in deciduous bushes and trees, the eggs number from 3-5. I have seen a nest so compactly built that during a heavy shower in July it nearly filled

with water and the birds deserted it. (*W. H. Moore.*) Restigouche valley, N.B.; always near settlements. (*Brittain & Cox.*) Common at Gaspé, Que., but nowhere else on the Gulf of St. Lawrence. (*Brewster.*) Taken at Beauport; a summer resident in eastern Quebec. (*Dionne.*) An abundant summer resident at Montreal; breeds in Mount Royal park; nests found containing fresh eggs from July 22nd to August 8th; observed at Montreal from April 7th to November 18th; have been seen as late as December 11th, 1890. (*Wintle.*)

Abundant summer resident at Ottawa, Ont. It occasionally winters here in large flocks as it did in 1888-9. (*Ottawa Naturalist*, Vol. V.) A very common summer resident in Ontario. I have seen flocks of this bird in January at Calabogie lake, Renfrew county, and occasionally at Lansdowne on the St. Lawrence. It is a very late breeder, seldom nesting until the middle of June; I have seen fresh eggs in August. (*Rev. C. J. Young.*) Resident at Toronto, Ont.; abundant in summer and sometimes in winter. An abundant summer resident in both the Parry Sound and Muskoka districts. (*J. H. Fleming.*) Common around the buildings at Câche lake, Algonquin park, Ont., June, 1900. (*Spreadborough.*) Common everywhere, and is to be found every winter in varying numbers in the cedar swamps about London, Ont.; a common summer resident. In the spring, erratic flocks are seen now here now there; but they begin to seek their summer quarters, to sing and to be regularly observed about April 28th, on an average of fourteen years. (*W. E. Saunders.*) A common resident; most abundant in summer around Guelph, Ont. (*A. B. Klugh.*) An abundant summer resident at Penetanguishene, Ont.; breeds. (*A. F. Young.*)

This familiar bird was noted only at Pembina on the borders of Manitoba. (*Coues.*) A common summer resident in Manitoba. I have not noted this bird in Manitoba before the end of May. In this country it finds neither thistles nor orchards, so it feeds largely on the seed of *Rudbeckia hirta* and *Gaillardia aristata*, and nests in the low poplars and oaks on the edges of the heavier timber. (*E. T. Seton.*) Common at Aweme, Man., nesting late in July. (*Criddle.*) An abundant summer resident in Manitoba and noted breeding at almost every point along the G. T. P. railway west to Edmonton in 1906. (*Atkinson.*) Quite common in the

vicinity of Brandon, Man., 1896. (*Macoun.*) One individual was seen at Crane lake, Sask., June 11th, 1894, and on the 25th of the same month two pairs were seen on the east end of the Cypress hills, Sask. ; seen June 27th 1895 in Farwell Creek valley, in the Cypress hills, and on the 30th along Sucker creek, Sask. ; common in the valley of Milk river, especially at Castellated rocks, also on St. Mary river and Lee creek, Alta., and near Chief mountain at the base of the Rocky mountains. (*Spreadborough.*) A pair taken at Maple creek, Sask., June 3rd, 1906. (*A. C. Bent.*) This very gay goldfinch is one of the tardiest summer visitors in the Northwest Territories, and it retires southwards in September after a stay of a little over three months. (*Richardson.*) A tolerably common summer resident near Prince Albert, Sask., breeding throughout the region. (*Coubeaux.*) Some of the above references probably should go to *pallidus* as our specimens from the prairie are nearly all that form.

Breeding Notes.—A common breeding summer resident at Ottawa, Ont. Its nest is often built in a white cedar, and is composed of downy and other soft vegetable matter; a very neat and compact affair, lined with horse hair, fine grass and down. Eggs four, of a faint bluish-white colour. (*G. R. White.*) This species nests at Ottawa and near Lake Nominingue, 100 miles north of it. The nest is composed of vegetable fibres, fine grass and strips of bark, lined mostly with thistle-down and sometimes with hairs. Nests in July and August and lays five or six eggs. (*Garneau.*) Not very common at Toronto, Ont., and is a late breeder, seldom having eggs before July 12th. (*W. Raine.*)

529*a*. Pale Goldfinch.

Astragalinus tristis pallidus Mearns. 1890.

Rocky mountain plateau district of the United States north to eastern British Columbia, western Manitoba, etc. (*Ridgway.*) First seen at Indian Head, Sask., June 1st, 1894, but common by the 12th; eight were seen at 12-Mile lake, Sask., and two collected; one specimen taken at Cascade, B.C.; saw two at Penticton, B.C., April 21st, 1904. (*Spreadborough.*) Goldfinches were fairly common in the timber, especially along Maple creek, Sask. and with the exception of the pair referred to above were nearer *pallidus* than *tristis*. (*A. C. Bent.*)

529*b*. **Willow Goldfinch.**

Astragalinus tristis salicamans (GRINNELL) RIDGW. 1899.

Of irregular occurrence during early winter at Okanagan, B.C. (*Brooks.*) Chiefly confined to the mainland on both slopes of the Coast range and in the Rocky mountain district. (*Fannin.*) Abundant on both slopes of the Coast range. (*Lord.*) The above citations may in part at least refer to *pallidus*.

CCXVI. **SPINUS** KOCH. 1816.

533. **Pine Siskin.**

Spinus pinus (WILS.) STEJN. 1884.

Recorded as common in Labrador by Audubon. (*Packard.*) Rather rare along the northeastern coast of Labrador in company with redpolls. (*Witmer Stone.*) A summer migrant in Newfoundland. (*Reeks.*) Large flocks seen commonly along the Humber river, Newfoundland. 1899. (*Louis H. Porter.*) Rather common in Nova Scotia; a summer resident. (*Downs.*) Three seen on Sable island, N.S., June 3rd, one on July 24th, and a number on October 4th, 1902; one seen, June 7th, 1904; one, June 16th, 1905, and one, July 2nd, 1907. (*J. Boutelier.*) A few observed at Baddeck, Cape Breton island. (*F. H. Allen.*) Small flocks were seen at Shulee, Cumberland county, N.S., and at Hebert river in December; none were seen at Parrsboro. When I returned to Hebert river in March I found it by far the most abundant bird. (*Morrell.*) Large flocks seen at North Sydney, Cape Breton island, in November, 1901, and on June 8th, 1902; probably breeds. (*C. R. Harte.*) Breeds near Wolfville, Kings county, N.S. regularly, in May and June, and usually is common till September; at other times of the year it is very irregular; resident throughout Nova Scotia, and found breeding from April until August. (*H. F. Tufts.*) It surprised me to meet this species but once on Prince Edward island,—a male at Souris. (*Dwight.*) A common species in New Brunswick; breeds very early. (*Chamberlain.*) A very irregular winter visitor; I think that some years it breeds at Scotch Lake, York county, N.B. (*W. H. Moore.*) Quite common in the Restigouche valley, N.B., in summer. (*Brittain & Cox.*) One of the most

abundant birds on the Magdalen islands until July, 1887., (*Bishop.*) Abundant at Gaspé and apparently nesting in the spruces and balsams in the village street, July 14th; later, July 24th, it was found in flocks at Ellis bay, Anticosti. (*Brewster.*) Taken at Beauport; a common summer resident in eastern Quebec. (*Dionne.*) A common winter visitant at Montreal; I observed a large flock of these birds, October 18th, 1885, on Isle Jesus, feeding on willows. (*Wintle.*)

A common winter resident at Ottawa, Ont., though somewhat irregular in its visits like most of our winter birds. Summer records are as follows: May 10, 1882; May 15, and August 15, 1884; May 2, 1888, and May 16, 1890. (*Ottawa Naturalist,* Vol. V.) Irregular winter resident at Toronto, Ont., sometimes abundant. I have often met with immense flocks in the Parry Sound and Muskoka districts. They keep together till May when they either disperse or disappear. In the winter the flocks are joined by redpolls and goldfinches. (*J. H. Fleming.*) A winter visitor and sometimes resident at Guelph, Ont. (*A. B. Klugh.*) Winter resident at Penetanguishene, Ont. (*A. F. Young.*) An irregular migrant in Manitoba; often seen in flocks of hundreds. (*E. T. Seton.*) Two specimens seen at Grand rapids on the Saskatchewan. (*Nutting.*) Tolerably common at Aweme, Man., in summer, but has not been seen in winter. (*Criddle.*) Noted about Portage la Prairie, Man, every month in the year, and in such numbers as to indicate a very erratic breeding season ; seen in 1906 at Birtle, Man., and Cherryfield, Saskatoon and Tramping lake, Sask. (*Atkinson.*) Seen very abundantly at Brandon, Man., and Indian Head, Sask., August, 1906. (*W. E. Saunders.*) Common on Methye portage, Sask. (*J. M. Macoun.*) On June 2nd, 1892, this species was common on the shore of Deep lake near Indian Head, Sask., where they were feeding on some small insects near the water, two were shot and their stomachs were full of the insects; a few observed at Medicine Hat, Sask., in April, 1894; in the foothills of the Rocky mountains, north to Edmonton, Alta., 1897, and thence to Peace River Landing, Alta., in 1903; common in flocks in June, 1891, at Banff, Rocky mountains; observed at Trail, Sophie mountain and Old Glory mountain near the International Boundary, 1902, and at Penticton, B.C., 1903; a few seen at Fernie, B.C., April, 1904; common at Midway and Sidley, B.C., in 1905, and in the same year common on the mountains

between the Skagit river and Chilliwack lake up to 5,000 feet altitude; both old and young seen in July; flocks observed at Agassiz, B.C., May 14th, 1889; seen flying in large flocks at Huntingdon and Chilliwack, B.C., feeding on the seeds of the western birch; two seen May 9th, 1893, at Victoria, Vancouver island; common in flocks at Goldstream, Qualicum and Comox in June. (*Spreadborough.*) An abundant summer resident on both slopes of the Coast range. (*Lord.*) Extremely abundant; arriving and departing in enormous flocks. (*Streator.*) Throughout the province; an abundant resident; appearing in great flocks during fall and winter at Victoria. (*Fannin.*) Common resident at Chilliwack, B.C.; an abundant winter resident at Lake Okanagan, B.C. (*Brooks.*) A very abundant resident in all localities, B.C. (*Rhoads.*)

Heard occasionally on Queen Charlotte islands, B.C.; three specimens were secured from a large flock at Tyonek, Cook inlet, Alaska, in September; no others were seen. (*Osgood.*) This bird was noted on the Yukon river at Windy island, Lake Tagish (about lat. 60°, B.C.), Lower Lebarge, Selwyn river, Sixty-mile creek, Dawson, and Forty-mile-creek, Yukon District; also at Circle City, Tatondu river and Charlie creek in Alaska. (*Bishop.*) Two examples in yellowish juvenal plumage were taken at Homer, Alaska, on September 8th, 1901. Very common during early summer on Kenai peninsula, Alaska, where many large flocks were seen migrating to the northward during July. A few more seen during August and September, and I am inclined to believe that it breeds very rarely there. (*Figgins.*)

Breeding Notes.—On the 16th of March, while at Christie's camp, I saw a bird gathering material, and by watching her soon located the nest. The female alone carried material, the male accompanying her to and from the nest, singing constantly. A very short stop was made at the nest. Evidently some material was accumulated before it was arranged. A day or two after finding the nest I went to Shulee early in the morning, going to Two rivers, and thence through the woods to the camp. At this date the ground was mostly covered with snow in the woods, though it was rapidly melting. I found the nest completed. The bird refused to leave the nest until I was nearly within reach; she remained near, several times returning to the eggs for a moment. The nest was placed well out towards the end of a limb of a spruce tree 27 feet above the ground. It was saddled on the limb and

radiating twigs but not attached to them, considering the size of the bird it is quite large, rather flat and bears no resemblance to nests of *Spinus tristis*, measuring as follows: height, 1.63 inches; depth, .75 inches; outside top diameter, 4 inches; inside top diameter, 2 inches. It is constructed mainly of dark pendulous tree-moss, with some fulvous bark from weed-stalks, plant-down, *Usnea* and other mosses. About the bottom of the nest is woven a few spruce twigs. The lining is entirely the pendulous moss. It contained four eggs but slightly incubated. These have a pale blue ground colour, slightly darker than eggs of *Spinus tristis*, somewhat sparingly marked about the larger end with pale purplish and a few dots of brownish black. (*Morrell.*) Common in winter in Ontario. This bird, of all wild birds, breeds the most readily in confinement. I have seen eggs that were laid by birds belonging to Dr. C. K. Clarke, of Rockwood, Ont., which had only been captured the previous winter, so had not been in a cage for more than a few months. (*Rev. C. J. Young.*) I have several nests with sets of eggs that were taken at Hamilton inlet, Labrador, during the summers of 1895 to 1898. One nest before me is a pretty specimen of bird architecture, and made externally of fine twigs and roots held together by moss with the inside lined with feathers. It was found June 17th, 1898, in a spruce tree 10 feet from the ground and contained five greenish white eggs spotted with brown. (*W. Raine.*) I have taken seven nests around Ottawa, Ont., in cedar trees (*Thuya occidentalis*) at heights of six, eight, ten and twelve feet. The nest is built of small twigs and a little vegetable down, lined with hair-like roots or hairs. Size of nest 3.50 x 2, and 2 x 1. It nests in April and May, and lays three or four pale blue eggs, dotted at the larger end with brown. (*Garneau.*) I did not see this species either season but Bishop collected one young bird at Maple creek, Sask., July 2nd and two young birds from a small flock in the Cypress hills, July 26th. (*A. C. Bent.*) All through May, 1905, siskins were common and breeding throughout Wellington county, Ont. Some ten nests were found, all in white spruces, black spruces or balsams. (*A. B. Klugh.*)

CCXVII. **PASSERINA** Vieillot. 1816.

534. **Snowflake.**

Passerina nivalis (Linn.) Vieill. 1820.

Breeds generally throughout Greenland and said to be the commonest land bird on the east coast; breeds also on Melville pen-

insula, and is very numerous on the Parry islands; seen by Kane at Renssalaer harbour in June, 1854. (*Arct. Man.*) Abundant at Fort Chimo, Labrador. Breeds on the islands in Ungava bay and occasionally on the mainland. Resident in the southern portion of Labrador. (*Packard.*) Not observed in crossing Labrador from Richmond gulf to Ungava bay; observed on Hudson strait going south, September 20th, 1896. (*Spreadborough.*) Very common everywhere in the north; comes from the south at the first sign of spring. (*A. P. Low.*) Several nests taken in August, 1902, in Tuctoo valley near the Peary headquarters, West Greenland. All the nests except one contained five eggs, the exception seven. A number of specimens taken at Disco, Greenland, in July, 1892, by the Relief expedition. The snow bunting appeared at Port Manvers, northeastern Labrador about the 10th of August, after which they became abundant. (*Witmer Stone.*) Common from April 1st to October 21st at Prince of Wales sound, Hudson strait; breeding in large numbers. (*Payne.*) Fort Churchill, Hudson bay. (*Wright.*) Taken at York Factory, Hudson bay. (*Dr. R. Bell.*) Very common in its summer migrations in Newfoundland. (*Reeks.*) Not so common in winter as formerly in Nova Scotia. (*Downs.*) Winter visitor in Nova Scotia. (*H. F. Tufts.*) First seen at Parrsboro, Cumberland county, N.S., January 19th, 1897; not very common, but from three to twelve birds in a flock. (*Morrell.*) Three seen on Sable island, N.S., April 21st; one in July and a number in October, 1902 ; seen in numbers, October 27th, 1907. (*J. Boutelier.*)

An abundant winter resident in New Brunswick. (*Chamberlain.*) A common winter visitor at Scotch Lake, York county, N.B. (*W. H. Moore.*) Leave Lake Mistissini, Que. for the north about May 10th. (*J. M. Macoun.*) A common winter resident in eastern Quebec. (*Dionne.*) Abundant winter visitant at Montreal, arrives about the middle of October in large flocks. I have observed them at Montreal from October 19th to April 26th. (*Wintle.*) A common winter visitor at Ottawa, Ont. (*Ottawa Naturalist*, Vol. V.) Commonly seen in large flocks during winter. I saw immense numbers at the head of Wolfe island, near Kingston, Ont., in October, 1900, just before cold weather set in. Flocks remained until March, 1901. This bird, though nesting commonly in high latitudes some-

times rears its young on lofty mountains. A friend of mine found the nest on the Grampian mountains in Invernessshire, Scotland. (*Rev. C. J. Young.*) Winter migrant at Toronto, Ont., usually abundant. Abundant in the winter in the Parry sound and Muskoka districts; the last leave for the north soon after the 1st of May, and some are back by the 1st of October. (*J. H. Fleming.*) A winter visitor at Guelph, Ont. (*A. B. Klugh.*) An abundant winter resident at Penetanguishene, Ont. (*A. F. Young.*) In lat. 45°, Ontario, these birds occasionally remain until May 1st and then have practically assumed their full plumage. (*W. E. Saunders.*)

Very abundant in early spring; fall and winter resident in Manitoba. First seen in Great Slave lake region on the large central island of Clinton-Golden lake, Aug. 11, 1907; old ones with young of the year. After that, while we were going northward others were seen, evidently on their breeding grounds but it was not a common species. (*E. T. Seton.*) Abundant in winter at Aweme, Man. (*Criddle.*) An abundant winter resident in Manitoba, remains in the fields until the middle of May. (*Atkinson.*) Very abundant in the spring and fall migrations at Indian Head, Sask.; a few at Egg lake, near Peace river lat. 56°, August 30th, and at Lesser Slave lake, September 5th, 1903; on McLeod river northwest of Edmonton, Alta., saw three on October 2nd, 1898, and hundreds of them on the shore of Lake Ste. Anne, October 12th; very common at Banff in winter and doubtless eastward to Manitoba; seen at Revelstoke, B.C., April 9th, 1890, disappeared on the 11th. (*Spreadborough.*) This neat and elegant bird breeds in the northernmost of the American islands, and on all the shores of the continent, from Chesterfield inlet to Behring strait. The most southerly breeding place recorded is Southampton island in lat. 62°, where Captain Lyons found a nest placed in the bosom of the corpse of an Eskimo child. (*Richardson.*) North to Fort Good Hope on the Mackenzie; abundant. (*Ross.*) On the 8th July, 1864, a nest of this species was discovered in a small hole in a sand bank at least two feet from the entrance along the shores of Franklin bay. The parent was snared on the nest. (*Macfarlane.*) The snowflake is very abundant every winter, near Prince Albert, Sask. It arrives as soon as the cold and the snow appear, usually about the middle of October, and remains as long as the weather is cold and bad. (*Coubeaux.*) Observed at Sumas, British Columbia. (*Lord.*)

Abundant resident; more common east of Coast Range. (*Fannin.*) Rare migrant at Chilliwack; common in the winter at Okanagan lake and in the Cariboo district, B.C. (*Brooks.*)

This species is a summer resident in all northern Alaska and extends its summer wanderings to the northern islands off the coast of the Arctic sea. (*Nelson.*) This bird may be seen at St. Michael, or its vicinity, at any season of the year, except the coldest weather in midwinter. (*Turner.*) This species and the Lapland longspur are the commonest passerine birds, and in fact the only ones which could be said to be common at Point Barrow. (*Murdoch.*) Choris peninsula and Cape Lowenstern, Alaska. A rather rare species around Kotzebue sound, but two pairs were seen that had young. (*Grinnell*). A series of 43 specimens, all from Point Barrow, Alaska, corresponds excellently with a series of Greenland birds obtained by the Peary expedition. (*Witmer Stone.*) One specimen was shot at White pass summit on June 12th. At St. Michael I saw two in September, and numbers on St. George island, Behring sea. (*Bishop.*) An adult male taken by Anderson at Herendeen bay, Alaska peninsula, is clearly to be referred to *nivalis* rather than to *townsendi.* (*Chapman.*)

Breeding Notes.—I have a set of four eggs that were taken by F. F. Payne at Cape Prince of Wales, Hudson strait, June 20th, 1886. On June 25th, 1901, a snow bunting built its nest in a hole under the eave of Mr. Stringer's house on Herschell island in the Arctic Ocean, west of the mouth of Mackenzie bay; on June 18th he found another nest and eggs on the ground in a hollow at the side of a hummock. (*W. Raine.*) Nests everywhere in the north; nests usually made of grass and feathers, usually hidden beneath a large boulder. (*A. P. Low.*)

534*a*. Pribilof Snowflake.

Passerina nivalis townsendi (Ridgw.) Ridgw. 1898.

This species was described from specimens taken by myself at St. Michael, and by Mr. McKay at Nushagak, Bristol bay. At both localities the bird appeared only as a migrant. (*Nelson.*) Aleutian islands, including Pribilof islands, and Shumagin islands. (*Ridgway.*)

535. **McKay Snowflake.**

Passerina hyperborea (RIDGW.) RIDGW. 1898.

Western Alaska, breeding on Hall island, (and probably St. Matthew island) Behring sea. (*A. O. U. Check-List.*) Two specimens of this rare bird were recently sent to me from Bethel, 90 miles up the Kuskokwin river, in the western part of Alaska. This is probably the farthest inland at which the bird has yet been found. (*Witmer Stone* in *The Auk*, Vol. XV., 269, 1898.) Hall island, Behring sea, Aug. 4th, 1891. They were in large numbers on the beach and appeared to be breeding in the cliffs. (*J. M. Macoun.*)

CCXVIII. **CALCARIUS** BECHSTEIN. 1803.

536. **Lapland Longspur.**

Calcarius lapponicus (LINN.) STEJN. 1882.

Breeds generally throughout Greenland as well as on the Melville peninsula and other lands to the westward of Davis strait. (*Arct. Man.*) Abundant at Fort Chimo, Labrador. Breeds near the mouth of the Koaksoak river and on the larger islands. (*Packard.*) Found everywhere along with the snowflake north of Hudson bay. First noted at Fullerton in the spring of 1904 during the last week in May. (*A. P. Low.*) One observed on a small island in James bay, June 15th, 1896; not seen again until September; then I saw them in large numbers on the barren ground below Fort Chimo. Observed a pair at East point, James bay, July 9th, 1903, apparently breeding. Common in the latter part of August from Cape Henrietta Maria to Albany. (*Spreadborough.*) Taken at Disco, Greenland, where they were breeding 1891. Common in northeastern Labrador after August 3rd. Breed about Nachvak and northwest to Hudson strait. South of Nachvak they occur only as migrants. (*Witmer Stone.*) Rather common 10 miles north of Fort Churchill, on the shores of Button bay, where an immature bird was taken July 31st, 1900. Abundant on the "barren grounds" south of Cape Eskimo, August 4th. (*Edward A. Preble.*) Fort Churchill, Hudson bay. (*Clarke.*) Only one specimen taken at Prince of Wales sound, Hudson strait, on May 14th, 1885; none others were seen. (*Payne.*) Not uncommon in Newfoundland. (*Reeks.*)

Some specimens shot at Cole Harbor, Nova Scotia. (*Downs.*) Occurs in winter at Grand Manan, New Brunswick. (*Chamberlain.*) Taken at Beauport; a winter resident in eastern Quebec. (*Dionne.*) A rare winter visitant at Montreal. This species is occasionally found mixing with the snowflake. (*Wintle.*)

This species was first recorded at Ottawa, Ont., in the spring of 1890, when in company with horned larks and snowflakes. It remained in the flocks till May 25th. It was present again in the fall from October 3rd to November 18th. (*Ottawa Naturalist*, Vol. V.) Irregular winter resident at Toronto, Ont. The only record I am aware of is that of a flock reported by Mr. Wm. Melville at Gravenhurst, Ont., on April 27th, 1890. (*J. H. Fleming.*) In April, 1897, I met with a small flock of these birds at Toronto, and took two or three males in grand plumage; in winter they more commonly appear in company with the snowflakes. (*J. Hughes-Samuel.*) Sometimes quite common in the spring migrations along Lake St. Clair, but very rare near London; only three or four specimens all told have been observed. (*W. E. Saunders.*)

One specimen shot on Mouse river (Souris), Dak., October 1st, 1873. The first of the southern migration. (*Coues.*) Very abundant spring and fall migrant wherever there is prairie or cleared country. They come in countless numbers about the middle of May and remain to the end of the month. After this time they go northwest to breed and return again about the last week in September. They remain about two weeks in the stubble fields and then pass southward. (*E. T. Seton.*) Abundant migrant at Aweme, Man. (*Criddle.*) Very abundant at Indian Head, Sask., in the spring and fall migrations; last of them seen at the end of May, 1892; on April 25th, 1894, a small flock was seen at Crane lake, Sask.; abundant as a migrant at Edmonton, Alta., from April 28th to May 5th, 1897. (*Spreadborough.*) In the year 1827 it appeared on the plains of the Saskatchewan at Carlton House about the middle of May and remained for about ten days. They came to Cumberland House about the same time and remained in the furrows of a newly ploughed field. In the preceding year they were seen, though in smaller flocks, at Fort Franklin, lat. 65½°, in the beginning of May; the crops of those killed were filled with the seeds of *Arctostaphylos alpina*. (*Richard-*

son.) Altogether about eighty nests of this species were collected in the "barren grounds" and on the shores of Franklin bay. (*Macfarlane.*). Beginning exactly at the edge of the woods and continuing as far as we went in "the barrens" in 1907 were countless Lapland longspurs. I think I did not see a dry ten-acres in the treeless region that was without at least two pairs of longspurs. (*E. T. Seton.*) North to Fort Simpson on the Mackenzie river. (*Ross.*) Numerous every spring and fall in company with the horned lark at Prince Albert, Sask. (*Coubeaux.*)

Breeding Notes.—I have a dozen nests with sets of eggs that were collected at Herschell island by Mr. Stringer and Mr. Young. The nests are made of dried grass, well lined with feathers and are always built on the ground, in the shelter of a tuft of grass or sod, and contain five or six eggs each. The eggs are laid in the middle of June and the female is a close sitter, most of the nests being found by flushing the bird off the nest. (*W. Raine.*)

536*a*. Alaskan Longspur.

Calcarius lapponicus alascensis Ridgw. 1898.

The whole of Alaska, including Pribilof and Aleutian islands, Unalaska and the Shumagins, east to Fort Simpson. (*Ridgway.*) Throughout the province; nowhere common. Burrard inlet, Victoria and Port Simpson. (*Fannin.*) Common in the fall; rare in the spring at Chilliwack, B.C. (*Brooks.*) Not common at Clayoquot sound, Vancouver island, in September and October, 1907. (*Spreadborough.*) Like the snowflake this species has a circumpolar distribution and is recorded from nearly every point visited by explorers along the shores of the Arctic sea-coast. (*Nelson.*) This species arrives at St. Michael from the 5th to the 15th May. A few arrive at first, and before a month elapses it is the most abundant land bird seen in the locality. (*Turner.*) Quite common at Point Barrow, but breeding inland on drier places than the snowflake which prefers the sea shore and the lagoons. (*Murdoch.*) I saw a small flock at the Aphoon mouth of the Yukon on the 27th August, 1899; later they were seen at St. Michael and on Unalaska island. (*Bishop.*) An abundant bird on the Pribilof islands in summer. (*Elliot; Palmer; J. M. Macoun.*)

BREEDING NOTES.—My acquaintance with the birds at this point was limited to the few hours ashore during this evening and the next. But the Alaskan longspur was, with the single exception of the snowy owl, the only land bird observed. The low-lying, moss-covered tundras with not even a dwarfed bush or any extensive patch of grass to offer attraction to any other land bird, seemed to constitute a congenial abode for this species, and the longspurs were fairly common. They seemed to show preference for the driest tracts lying just back of the beach and on the higher ground separating the numerous lagoons and lakes. In my tramp across these tundras I would frequently meet with a male longspur standing motionless on some conspicuous hummock. If I approached too close he would attempt to get out of my way by stealthily running to one side, but if pressed he would take flight and mount upwards circling high overhead and uttering his pleasing song. I sometimes heard them singing from their perches on the ground, but they were most generally heard while circling with apparent aimlessness far above, the yellow reflection of the midnight sun bringing out their forms against the indigo sky. To my ear the song of the Alaskan longspur resembles closely that of the western meadowlark, except that it is much weaker and more prolonged. A nest was found at this point containing two newly-hatched young and three eggs. It was sunk into a hummock of spahgnum and completely concealed from above by a tussock of grass, part of which was artfully arched over it. The nest proper consisted of a remarkably scant lining of long, fine grasses. At Cape Lowenstern, on July 1st, I noted a few longspurs, and at Cape Blossom, over the rolling hills just back of the coast, this bird was common. Its song was heard for a few days after our arrival, June 9th, but ceased altogether after the 16th. The first juveniles, full-grown, were seen on July 30th. In 1899, apparently a much earlier season, many nearly-fledged young were noted on July 1st. From August 1st to 12th, 1898, juveniles were plentiful in the vicinity of the mission. They were in small companies or scattered singly in the edge of the tall grass bordering the beaches. The tendency at this season seemed for them to be gathering into flocks, and on the 11th, the last day of our stay on the sound, I saw a flock of about 25. I last saw the Alaskan longspur in 1898, on the 16th of August; it was on our way up the Kowak, and at a point about 100 miles from

the mouth. A small company flew across the river in front of our steamer in a southerly direction. In the spring of '99, on the Kowak, the first longspurs were noted on the 20th of May. In this region they inhabit the bare level stretches of tundra, extending at intervals from the river back to the foot-hills. On June 1st, I secured a nest and five fresh eggs. The nest was embedded in the moss under an overhanging clump of dead grass, and consisted of fine dry grasses, with a lining of dark feathers of ptarmigan and short-eared owls. The diameter of the nest cavity 2.50, with a depth of 1.00. The eggs are nearly oblong-ovate in shape and measure .87 x .60, .86 x .61, .84 x. 60, .86 x. 60, 85 .x. 61. Their ground-colour, as disclosed for a limited space at the small ends of two eggs, is very pale blue. Otherwise the eggs are so completely covered with pigment as to be almost uniform isabella colour. Overlying this are scattered scrawls and dots of bistre. I found another nest on Chamisso island on the 9th July. This was similarly located and contained four eggs in which incubation was nearly completed. (*Grinnell.*) Mr. William Palmer in *The Birds of the Pribilof Islands* gives a detailed account of the breeding habits of the Alaskan longspur there.

537. **Smith Longspur.**

Calcarius pictus (SWAINS.) STEJN. 1882.

Rather common in the meadows at Fort Churchill, Hudson bay, July 23rd to 30th, 1900. They were quite tame, but hard to see on the mossy hillocks. (*Preble.*) Observed only on one occasion near the Souris river, when it was in company with chestnut-collared and Lapland longspurs, having like the last species just arrived from the north. (*Coues.*) An abundant spring but rare fall migrant in Manitoba; on May 17th, 1884, they were at Carberry, Man., in enormous numbers, and I had no difficulty in getting all the specimens I desired. (*E. T. Seton.*) Rare at Aweme, Man. (*Criddle.*) A large flock was seen at Indian Head, Sask., on May 12th, 1892, common by the 15th but gone in a few days; a few were seen at Egg lake, Peace river, lat. 56° on August 30th, and others at Lesser Slave lake, September 5th, 1903. (*Spreadborough.*) This species was observed associating with Lapland buntings on the banks of the Saskatchewan, but no information regarding its breeding habits

was received. Only one specimen was obtained. (*Richardson.*) North to Fort Simpson on the Mackenzie river; rather rare. (*Ross.*) Very abundant in the country to the eastward of Fort Anderson in the "barren grounds," and on the lower Anderson river. (*Macfarlane.*) This species has been taken at Fort Yukon by Strachan Jones but there is no other record of its having been taken in Alaska. (*Nelson.*) One male secured at Point Barrow, Alaska, June 11th, 1898. (*Witmer Stone.*)

Breeding Notes.—This bird breeds abundantly on the slopes of the Cariboo hills, 80 miles south of the Arctic coast west of the Mackenzie river delta. Here Mr. Stringer found several nests in June, 1897. They were built on the ground in grassy hummocks and contained from 4 to 6 eggs in each, which somewhat resemble eggs of the Lapland longspur, except that they have a paler ground-colour. Ten nests before me are all made of dry grass and well lined with feathers. (*W. Raine.*)

538. **Chestnut-collared Longspur.**

Calcarius ornatus (Towns.) Stejn. 1882.

These birds were not noticed in the immediate vicinity of Red river, but I had no sooner passed the Pembina mountains than I found them in profusion; from thence they extend in more or less abundance to the Rocky mountains. (*Coues.*) A common summer resident in Manitoba, local in distribution, many pairs affecting a limited area of dry prairie, while for miles no more of this species are to be seen. One seen on the shore of Aylmer lake, Great Slave Lake district, August 13th, 1907. (*E. T. Seton.*) Common at Aweme, Man., nesting in colonies on the open prairies. (*Criddle.*) Abundant all over Manitoba as a migrant. Breeds sparingly in some districts; much more numerous westward. Observed breeding in 1906 from Forest, Man. to Edmonton, Alta. (*Atkinson.*) First seen at Indian Head, Sask., May 12th, 1892, by the 18th they were common; they breed there in great numbers; very common at Crane lake; seen in large flocks flying in company with McCown's bunting at Medicine Hat, May 2nd, 1894; breeding in large numbers at Crane lake in June; found three nests with young and one with four fresh eggs June 12th, 1894; the nest was a rather deep hole in the

ground, lined with a little dried grass; nest on the open prairie in short grass; rare at the Cypress hills, only one specimen seen in a week. (*Spreadborough.*) Quite common at Brandon, Man., and Moose Jaw, Sask., in 1896. This is a common bird everywhere on the prairie from Indian Head, Sask., westward to Frenchman river; this species, the horned lark and McCowan's bunting make up nearly the whole avi-fauna of the absolute prairie. It is exclusively a prairie bird and is more or less common in all country traversed in 1895 to Milk river. No nests were taken before June 18th, though in the preceding year young were hatched before that date. (*Macoun.*) I have found this bird breeding abundantly throughout the prairie parts of Manitoba and Saskatchewan. It was especially numerous on the prairie north of Moose Jaw, Sask., where during the first week of June, 1891, I found many nests on the ground at the side of sods and containing five or six eggs each. (*W. Raine.*)

Breeding Notes.—My first specimens were secured July 14th, 1873, at which dates the early broods were already on wing. Uniting of several families had scarcely begun, however, nor were small flocks made up, apparently, till the first broods had, as a general thing, been left to themselves, the parents busying themselves with a second set of eggs. Then straggling troops, consisting chiefly of birds of the year, were almost continually seen, mixing freely with Baird's buntings and the skylarks; in fact, most of the congregations of prairie birds that were successively disturbed by our advancing wagon-trains consisted of all three of these, with a considerable sprinkling of Savanna sparrows, shore-larks and bay-winged buntings. The first eggs I secured were July 18th, nearly a week after I had found young on wing; these were fresh; other nests examined at the same time contained newly hatched young. Again, I have found fresh eggs so late as the first week in August. During the second season, the first eggs were taken July 6th, and at that time there were already plenty of young birds flying. The laying-season must consequently reach over a period of at least two months. I was not on the ground early enough to determine the commencement exactly, but supposing a two weeks' incubation, and about the same length of time occupied in rearing the young in the nest, the first batch of eggs must be laid early in June to give the sets of young which fly by the first of July. There is obviously time for the first pair to get a second, if not a third, brood off their hands by the

end of August; I should say that certainly two, and probably three, broods are reared, as a rule. The result of all this is that from the end of June until the end of August young birds in every state of plumage, and the parents in various degrees of wear and tear, are all found together. The nest, of course, is placed on the ground, usually beneath some little tuft of grass or weeds, which effectually conceals it. Like that of other ground-building sparrows, it is sunk flush with the surface of the ground, thin at the bottom, but with thicker and tolerably firm brim; it consists simply of a few grasses and weed-stems for the most part circularly disposed. In size, the cup is about $3\frac{1}{2}$ inches across the brim and nearly 2 in depth. During the first season, I only found four eggs or young in a nest; but I afterward took one containing six eggs. These measure about $\frac{4}{5}$ long by $\frac{3}{5}$ broad, of an ordinary shape. They are difficult to describe as to colour, for the marking is intricate as well as very variable here as elsewhere in the genus. I have called them "grayish-white", more or less clouded and mottled with pale purplish gray which confers the prevailing tone; this is overlaid with numerous surface markings of points, scratches and small spots of dark brown, wholly indeterminate in distribution and number, but always conspicuous, being sharply displayed upon the subdued ground colour. On those occasions when I approached a nest containing eggs, the female usually walked off quietly, after a little flutter, to some distance, and then took wing; at other times, however, when there were young in the nest, both parents hovered close overhead, with continuous cries. (*Coues.*)

CCXIX. **RHYNCHOPHANES** Baird. 1858.

539. McCown Longspur.

Rhynchophanes mccownii (Lawr.) Ridgw. 1877.

A specimen of this bird was taken just west of Manitoba by Mr. Thorpe near Dalesboro. (*E. T. Seton.*) This species was never seen in the Red river region and I do not think it occurs on that watershed which is so thickly populated in summer with *C. ornatus*. It seems to be one of the many birds that mark the natural division between that region and the Missouri basin. The first specimen taken was near Fort Buford. As we progressed towards the Milk river the bird became more and more abundant and it occurred

throughout the country thence to the Rocky mountains. McCown's longspur was very abundant in the country about Frenchman river where both species were breeding but further west *C. ornatus*, diminished in numbers while McCown's longspur increased and extended to the foothills of the Rocky mountains. (*Coues.*) Very common on the prairies in 1906, particularly on the barren hills north of Maple creek, Sask. (*A. C. Bent.*) First seen at Indian Head, Sask., May 23rd, 1892; by the first June they were abundant on burnt prairie and land that had been broken and let run to weeds; numbers remained to breed; two individuals were seen at Medicine Hat, Sask., April 21st, 1894, after which time they became common both there and at Crane lake 100 miles further east. By May 2nd they were in thousands at Medicine Hat and numbers of males were in full song; common at Crane lake in June; amongst other nests one was found containing five eggs, one of which belonged to a cow-bird. The nest was a rather deep hole in the prairie, lined with a little dried grass; in 1895 they were common at Moose Jaw, at Old Wives creek, Wood mountain, Frenchman river up to the Cypress hills, Sask., but not in the hills, and westerly from there to Milk river, where they decreased in numbers and only a few extended to the foothills near Waterton lake; observed a number at Calgary, Alta., June 19th, 1897; one seen on the shore of an island in Lesser Slave lake, Alta., May 31st, 1903. This species and *C. ornatus* were always found together and are true prairie species. (*Spreadborough.*) I secured an adult male on June 3rd, 1887, and on the same day three years later, shot two females at the same place; these are all I have seen at Chilliwack, B.C. (*Brooks.*)

Breeding Notes.—During June, 1891 and 1893, I found this species abundant on the hilly prairie north of Rush lake, Sask. Here it builds its nest on the ground at the side of a sod and lays four or five eggs. The female is a close sitter, not leaving the nest until the intruder has stepped close up to it. The eggs are like those of Smith's longspur in colour and markings, but average smaller in size. (*W. Raine.*) This is a very common species in many parts of the prairie region. Many nests were seen in 1894 and 1895 and all were in a hole in the ground with slight elevation on one side. Nest of dried grass and indistinguishable from that of the chestnut-collared bunting. (*Macoun.*)

CCXX. **POOCÆTES** BAIRD. 1858.

540. **Vesper Sparrow.**

Poocætes gramineus (GMEL.) BAIRD. 1858.

A common resident in fields in Nova Scotia. (*Downs.*) Common in Nova Scotia from the middle of April to October. (*H. F. Tufts.*) Not uncommon at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; a few specimens seen at Rustico, Prince Edward island, 2nd July, 1888. (*Macoun.*) One seen on Sable island, N.S., May 16th, 1906; several seen April 11th, 1907 and one June 21st. (*J. Boutelier.*) An abundant bird on Prince Edward island, frequenting the open fields in the more settled districts. (*Dwight.*) One specimen shot at Hampton, N.B., June, 1881. (*Chamberlain.*) An abundant summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Not common in eastern Quebec. (*Dionne.*) A common summer resident in the Montreal district; breeds on the island of Montreal. Nests with eggs found from May 14th to 28th; observed from April 7th to October 8th. (*Wintle.*) An abundant summer resident, breeding in large numbers. (*Ottawa Naturalist*, Vol. V.) Very common in meadows and pastures; have found the nest on two occasions the last of April. (*Rev. C. J. Young.*) Abundant summer resident at Toronto, Ont.; one of the commonest summer residents in the Parry Sound and Muskoka districts. (*J. H. Fleming.*) A very common summer resident in all western Ontario. (*W. E. Saunders.*) An abundant summer resident at Guelph, Ont.; arrives about April 1st and leaves about October 15th. (*A. B. Klugh.*) Very abundant in summer; breeding at Penetanguishene, Ont. (*A. F. Young.*) One pair found breeding at Câche lake, Algonquin park, Ont., 1900. (*Spreadborough.*) Common at Grand rapids of the Saskatchewan river; specimens taken, all males. (*Nutting.*) Numerous in all open situations between the Coast range and the Rockies as far north as Lac la Hâche, B.C. (*Rhoads.*) Mr. Streator and the writer place the Ashcroft, B.C. birds under *confinis*.

The vesper sparrows of Cariboo district, B.C. seem closer to the typical species than to either of the subspecies *affinis* or *confinis*. They were common at 150-Mile House, and were also breeding at timber line at Barkerville. (*Brooks.*)

Breeding Notes.—Nest bulky, near stone quarry, built on the ground composed of grass and weed stalks, lined with horse hair and fine grass; eggs 4, grayish white, marked all over with spots and splashes of dull reddish brown. (*G. R. White.*) Arrives in New Brunswick from winter quarters during April. Have found nests with full sets of eggs early in May; and once a nest with three eggs was found with partly incubated eggs in September. (*W. H. Moore.*) This species breeds around Ottawa in May and June. Nest sunken in the ground, the brim being on a level with the soil; nest composed of grass rootlets with sometimes a few bits of green moss or a few hairs; four or five eggs are the usual number. (*Garneau.*) Found a vesper sparrow's nest containing three eggs, May 2nd, 1906, near Westmount, Que. The nest was built of grasses and stems with a heavy lining of horse-hair and was placed in a clump of dead grass in a field which was for the most part damp and marshy. (*W. J. Brown.*)

540*a*. Western Vesper Sparrow.

Poocætes gramineus confinis Baird. 1858.

This species breeds from Pembina on the east to the base of the Rocky mountains on the west along the 49th parallel. (*Coues.*) A very abundant summer resident on the prairies of Manitoba. (*E. T. Seton.*) Abundant at Aweme, Man. (*Criddle.*) Abundant breeder all over Manitoba and west to Edmonton, Alta. (*Atkinson.*) This species arrives on the Saskatchewan plains early in May, and frequents the withered grass which makes an excellent cover. It was not seen by us beyond lat. 57°. (*Richardson.*) On 26th June, 1864, we found a nest of this species containing six eggs in a sparsely wooded tract of country to the east of Fort Anderson. (*Macfarlane.*) Quite a common summer resident throughout the country around Prince Albert, Sask., and to be seen running ahead on every trail; breeding in great numbers in the region. (*Coubeaux.*) In 1895 this species was common from Winnipeg to the Rocky mountains on or near the 49th parallel. It always nested on the ground, but seemed to prefer being where there is more or less brush; it was first found nesting on June 2nd. First seen at Indian Head, Sask., on May 9th, 1892, common by the 13th; found two nests on the ground, June 7th, with four eggs in each; first seen at Medicine

Hat, Sask., April 30th, 1894, two individuals, both males; next day five were seen and by May 4th they were common and the same at Crane lake on the 7th; common on the east end of the Cypress hills in the latter end of June; in 1891 it was found to be common and breeding around Banff, Rocky mountains, in the direction of Devil lake; at Edmonton, Alta., after May 1st, 1897, they very soon became common and began to pair; they were common in the foothills from Calgary to Crow Nest pass; common on all the small prairies throughout the Peace river country between lat. 55°-57°; common along the trail on all the dry grass land from Edmonton to Jasper House in 1898; this species was common at Kamloops, Spence Bridge, Enderby and in the Nicola valley, B.C., in June, 1889, and on the plateau between the North Thompson and Bonaparte rivers; a few observed at Chilliwack, B.C., in the spring, and one at the mouth of Tami Hy creek, September 8th, 1901; in April and May, 1903, they were quite common at Penticton in southern British Columbia; first seen at Fernie, B.C., April 29th, common by May 4th, found a nest half built in a clump of grass on May 20th; first seen at Midway, B.C. April 16th, 1905, common by May 1st. (*Spreadborough.*) Very common in the interior; breeds. (*Streator.*) An abundant summer resident east of Coast range, also on Vancouver island. (*Fannin.*) Migrant; not common at Chilliwack. Specimens are very pale and may belong to *affinis*. (*Brooks.*)

Breeding Notes.—Several nests were found at Pembina, containing eggs, about the middle of June. One of them also held two *Molothrus* eggs. The nests were built in open ground, quite deeply sunken so as to be flush with the surface, and more substantial than those of many ground-builders, the walls being an inch or more thick at the brim. The cavity is small and deep in comparison with the whole nest. The usual materials are grasses and weed-stalks, the coarser material outside, the finer fibres within and at the bottom. The eggs, of which I have not found more than four, measure about 0.80 by 0.55; they are grayish-white, heavily marked all over with spots, dashes and blotches of reddish-brown, and a sprinkling of fine dots of the same or darker brown. The female is a close sitter, not leaving the nest until nearly trodden upon, and then fluttering off as if crippled, to distract attention from the nest to herself. (*Coues.*) This is a very common prairie species, breeding in all parts of southern Saskatchewan and Alberta. A nest

taken on 31st May, 1895, contained three fresh eggs. The nest was, on the sloping side of a coulée, placed on the ground under a tuft of grass. It was built chiefly of fine material, the base being leaves of grass, the coarser at the bottom. A few hairs were worked in at the last. Another nest identical in every way was taken 19th June, in a clump of *Potentilla gracilis* at the edge of a ravine. (*Macoun.*)

540*b*. Oregon Vesper Sparrow.

Poocætes gramineus affinis MILLER. 1888.

Western Washington and British Columbia, including Vancouver island. (*Ridgway.*) West side of Coast range, B.C., and Vancouver island. (*Fannin.*) A few observed at Chilliwack, B.C., in the spring of 1901; and one individual at the mouth of Tami Hy creek, September 9th of the same year. (*Spreadborough.*)

CCXXI. PASSERCULUS BONAPARTE. 1838.

541. Ipswich Sparrow.

Passerculus princeps MAYNARD. 1872.

Taken at Lawrencetown near Halifax, N.S., March, 1878. (*Matthew Jones.*) One taken at Point Lepreaux, N.B., April, 1876. (*Chamberlain.*) On April 7th, 1895, when 260 miles from Halifax, on board the S.S. *Labrador* bound for Liverpool, two of these sparrows came on board and remained for some hours; apparently they were on their way to Newfoundland. (*J. H. Fleming.*) In the summer of 1899 the writer spent six weeks on Sable island and had ample opportunity to study the habits of this bird. It was the only resident land-bird on the island and all nests found whether new or old belonged to it. Most of those found were scooped out of the sand and built more or less with grass. Many birds winter on the island, and as far as known it is its only breeding grounds. Dr. Jonathan Dwight, jr., of New York, has written a full account of its habits and nesting on the island. In 1902 Mr. W. E. Saunders, of London, Ont., who spent some time on the island, published a very full account of its life history in the *Ottawa Naturalist*, Vol. XVI. and in *The Auk*, Vol. XIX., pp. 267-271, he described the nests and breeding habits of this interesting bird.

542. Sandwich Sparrow.

Passerculus sandwichensis (GMEL.) BAIRD. 1858.

Common about the prairies and open timbered lands. (*Lord.*) Common on the coast in the fall. (*Streator.*) An abundant summer resident west of Coast range; breeds on Vancouver island. (*Fannin.*) Tolerably common migrant at Chilliwack. (*Brooks.*) A few specimens taken at Chilliwack, B.C., in the spring of 1901; taken at Hastings, April, 1889; first seen near Victoria, Vancouver island, about April 20th, 1893, by May 4th they were common. (*Spreadborough.*) One seen on April 23rd, 1887, at Victoria; abundant the next day; common along the sea coast at Salt Spring island, Nanaimo and Comox. (*Macoun.*)

A few were seen on Unalaska island, October 5th, 1899, and two young secured. (*Bishop.*) This species occurs during the summer along the entire Aleutian chain and on the island of Kadiak, in addition to the southeastern shore of the territory. Dall cites it from Unalaska where he found it numerous, as he did also to the eastward, but he did not find it to the west of that island. (*Nelson.*) This species is one of the earliest arrivals at Unalaska, usually about the 10th of May. They breed in June in the grass. (*Turner.*) On June 3rd, 1890, in a grassy patch near Lukannin beach, on St. Paul island, I several times flushed a sparrow which I identified as this species. (*Palmer.*) Five specimens were taken on Amagnak island, near Dutch harbour, Unalaska, in September, 1897. (*Grinnell.*) Anderson took ten specimens at Muller bay, Alaska peninsula, in 1903. (*Chapman.*)

BREEDING NOTES.—On June 10th, 1893, at Vancouver, B.C., found a nest and five eggs of this bird. The nest was built on the ground, made of dried grass and lined with hair. The eggs are greenish-white, heavily blotched and spotted with light brown and lilac; size .74 by .54 inches. (*W. Raine.*)

542*a*. Savanna Sparrow.

Passerculus sandwichensis savanna (WILS.) RIDGW. 1880.

Common throughout eastern Labrador; breeds at the mouth of the Koaksoak river and at Davis inlet. (*Packard.*) Tolerably com-

mon on the islands and shores of James bay, from Moose Factory to Richmond gulf; none seen in crossing Ungava until we neared Fort Chimo. In 1904, abundant along the west coast of James bay. (*Spreadborough.*) Two adult specimens from Chateau bay, July 14th, 1891. (*Norton.*) Abundant throughout the summer in Newfoundland. (*Reeks.*) Uncommon; passes through Nova Scotia in spring. (*Downs.*) Very common from April to October in Nova Scotia. (*H. F. Tufts.*) Rather rare at Baddeck and Margaree, Cape Breton island, July, 1898; common on the shore at Brackley beach, Prince Edward island, June 29th, 1888. (*Macoun.*) This is probably the most abundant bird on Prince Edward island, and is found everywhere except in woods. On sand beaches, marshes or dry fields its weak song was constantly heard and in certain pastures it seemed as if every third fence-post was occupied by a singer. (*Dwight.*)

An abundant summer resident in New Brunswick. (*Chamberlain.*) A common summer resident at Scotch Lake, York co., N.B. (*W. H. Moore.*) Very abundant on the Magdalen islands; breeding in every open field. (*Bishop.*) An abundant species on all the grassy islands and shores of the Gulf of St. Lawrence. (*Brewster.*) A common summer resident in eastern Quebec. (*Dionne.*) An abundant summer resident at Montreal; breeds on the island of Montreal. Nests with eggs found May 24th. Observed here from April 7th to October 1st. (*Wintle.*)

A common summer resident at Ottawa; breeds by St. Louis dam. (*Ottawa Naturalist*, Vol. V.) I found this bird to be the commonest bird on the Magdalen islands in 1897; it nests in May and June and usually lays five eggs, but sometimes only four. It is also very common on Simcoe island, in Lake Ontario, but not so common on the main shore. (*Rev. C. J. Young.*) Common summer resident at Toronto, Ont. Reported by Mr. Taverner as common at Beaumaris, Muskoka district, on April 22, 1898; I have not met with it in Parry sound district. (*J. H. Fleming.*) An abundant species around Toronto in all suitable localities. (*J. Hughes-Samuel.*) Observed a pair at Câche lake, Algonquin park, Ont., June 18th, 1900. (*Spreadborough.*) A common summer resident at Guelph, Ont. An inhabitant of pastures. (*A. B. Klugh.*)

Breeding Notes.—Nest on ground, built of grass and lined with horse-hair; eggs four, a light gray, thickly mottled with reddish

brown. (*G. R. White.*) The nesting season at Scotch Lake, York co., N.B., is from May to July. Three to five eggs are laid in a loosely constructed nest of grasses on the ground, or sometimes by the side of a log or root. (*W. H. Moore.*) Quite common at Ottawa and Lake Nomininguе. Nest sunken in the ground and hidden by the grass, made with grasses, rootlets and hairs. Sometimes only two or three bits of grass and hair are used. One nest was found in sand under a potato plant. It nests in May, June and July and lays four eggs. (*Garneau.*) July 7, 1903, saw three nests on the west coast of James bay, one with four young just hatched, one with both young and eggs and one with six eggs. All the nests were made of dry grass and were in the short grass just above high-water mark. (*Spreadborough.*)

542*b*. Western Savanna Sparrow.

Passerculus sandwichensis alaudinus (Bonap.) Ridgw. 1877.

Breeds in profusion throughout the region explored, that is along the 49th parallel. Though not exclusively a bird of the prairie, it seems to be as much at home in the open plains as anywhere, associating with *Centronyx*, the chestnut-collared and McCown's longspurs. It is also found in the brush along streams and the larger rivers which are not frequented by the above species. (*Coues.*) An abundant summer resident on the prairies in Manitoba. The bird is remarkably shy, even in places where man is scarcely ever seen. (*E. T. Seton.*) Tolerably common at Aweme, Man. (*Criddle.*) Breeds abundantly in open country everywhere in Manitoba and west to Edmonton, Alta. (*Atkinson.*) First seen May 11th, 1892, at Indian Head, Sask., common by May 13th; they breed in the vicinity in great numbers; common at Crane lake, Sask., seemed to prefer low ground where there were bushes; quite common on the east end of the Cypress hills the last week in June, 1894, in low damp ground ; in 1895, its habits were more carefully observed and it was found that it was always by pools of water or in marshes at West Selkirk, Brandon, Moose Jaw, Parkbeg and Old Wives creek. It was found nesting at 12-Mile lake, near Wood mountain, and always in marshy spots ; this species was noted wherever there was water or marsh for 400 miles to the westward—to the foothills of the Rocky mountains. (*Macoun.*) First seen at Edmonton, Alta., May 3rd, 1897, next day they were common; two nests were

taken on the ground near a lake, each contained five eggs; common in the foothills, south of Calgary in 1897; first seen on April 25th, common by 29th, at Penticton south of Lake Okanagan, B.C.; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, June, 1903; common on the damp grass land from Edmonton to Jasper House, also in the MacLennan River valley, B.C., in 1898 ; this species was taken at Banff, in the Rocky mountains, in 1891, and in other years at Revelstoke, mouth of Salmon river, Fernie, Midway, Similkameen river, Penticton, Douglas, Agassiz and Huntingdon, B.C.; also at Victoria, Vancouver island and very abundant along the beach at Clayoquot Sound in September and October, 1907. (*Spreadborough.*) This is a common species from the Saskatchewan northward to the "barren grounds." (*Richardson.*) Not uncommon, but in summer only, and breeding here on the prairie at Prince Albert, Sask. (*Coubeaux.*) Common down the Mackenzie river to its mouth. (*Ross.*) Very abundant in marshy and sparsely wooded tracts or plains near Fort Anderson and on the lower river, seeing that "upwards of 200 nests with eggs" were collected in that quarter. They were all placed on the ground and composed of dry stems of grasses lined with finer materials of the same. Sometimes the nests are lined with a few feathers and deer hair. The number of eggs in a nest was four or five. (*Macfarlane.*)

Common about the prairies and open places. (*Lord.*) Abundant summer resident on the coast. (*Streator.*) Summer resident on the coast. (*Fannin.*) An abundant summer resident at Chilliwack, an occasional bird remaining all winter. (*Brooks.*) This form breeds in all localities in British Columbia from the Rocky mountains to the coast, including the islands, from the sea level to 5,000 feet. (*Rhoads.*) Sumas prairie, Lulu island and English bay, B.C.; common at those localities. (*E. F. G. White.*) Next to the Lapland longspur this bird is the most abundant of the sparrow tribe throughout the Behring sea coast region of Alaska, and it extends thence north to the Arctic shores of the territory. (*Nelson.*) This species was not obtained at the Aleutian islands, but at St. Michael it was as common as the other species. (*Turner.*) The western Savanna sparrow was fairly numerous in the vicinity of Cape Blossom, Kotzebue sound. The grassy meadows bordering lagoons seemed to be its most congenial haunt, although I met with a few on the hillsides towards the interior of the peninsula; young were half-

fledged by July 10th. (*Grinnell.*) Six breeding specimens taken between June 1st and July 27th, and three in winter plumage, illustrate this species as seen at Point Barrow, Alaska. (*Witmer Stone.*) A few were seen and four specimens taken at Hope and Tyonek, Cook inlet, Alaska, September, 1900. (*Osgood.*) I saw several Savanna sparrows in the marshes at Chilkat inlet, June 1st, 1899, and took individuals at Haine Mission and at Skagway and others at Glacier, Alaska; several pairs were seen at Log Cabin on Lake Bennett, at Cariboo Crossing and on an island in Lake Tagish, B.C.; later they were seen on Lake Marsh, lat. 60° 15′, in the Yukon district; then after this none was seen until we reached the Alaska boundary, they were found at Circle City, Charlie Village and at the Aphoon, mouth of the Yukon, and at St. Michael. (*Bishop.*) From June to September of 1901, eight specimens in all were seen at Homer and Sheep creek near the Kenai mountains, Alaska. Found breeding on the low sandy spit at Homer. Its nest was well concealed in coarse grass. It was entirely covered and the entrance to the three nests examined was on the southern side. (*Figgins.*) Nineteen specimens were taken in 1903 at Seldovia and Sheep creek, Alaska. (*Anderson.*)

Breeding Notes.—A large suite of specimens was taken, a part of it, however, unintentionally, for it is not an easy matter to always distinguish between the Savanna sparrow and Baird's bunting at gunshot range, and when I have killed a bird I generally make a point of preserving it, even though it is not particularly wanted as a specimen in order that its life may not have been taken in vain. The nest is placed on the ground, simply built of dried grasses with a lining of horse hair; the eggs are four or five in number, in this locality usually laid in the first half of June. Like nearly all the fringilline birds of this region the Savanna sparrow is frequently the cow-bird's foster-parent, and in one instance that came under my observation, the nest contained two of the alien eggs. (*Coues.*) On June 18th, 1882, within a few feet of a straw-stack in the barnyard, where horses and cattle are continually running about, I found the nest of a Savanna sparrow, protected only by a tuft of prairie grass. It contained five eggs, and was composed of grass with a meagre lining of horse-hair, the whole being slightly sunk in the ground. (*E. T. Seton.*) This is a very abundant species in Saskatchewan and Alberta. Set of eggs usually four. Always

breeds near water, generally in old grass in a marsh or by a pool. Nest composed altogether of dried grass with a lining of finer grass and a little horse or other hair. (*Macoun.*)

542. Labrador Savanna Sparrow.

Passerculus sandwichensis labradoricus R. H. Howe, Jr., 1901.

Fairly common at Port Manvers, lat. 57° northeastern Labrador, during the last half of August and the first week of September, 1900. (*Witmer Stone.*) Probably not separable from the Savanna sparrow.

CCXXII. CENTRONYX Baird. 1858.

545. Baird Sparrow.

Centronyx bairdii (Aud.) Baird. 1874.

It is difficult to understand how this bird eluded observation for thirty years from the time of its original discovery by Audubon on the upper Missouri nearly to the present day. I did not meet with the species along the Red river itself, but found it as soon as I passed from the Pembina mountains to the boundless prairies beyond. In some particular spots it outnumbered all the other birds together, and on an average through the country from the Pembina mountain to the Mouse (Souris) river it was one of the trio of commonest birds. The skylarks and chestnut-collared longspur being the other two. (*Coues.*) An abundant summer resident throughout the Assiniboine valley, wherever there are alkaline flats. In many parts of the prairies west of Birtle there are low flat alkaline stretches sparsely covered with long, wiry grass. Wherever the land is of this character the Baird bunting is sure to be a prominent if not a prevailing species. (*E. T. Seton.*) One specimen secured the first time we went collecting at Grand rapids of the Saskatchewan; shot on a high grassy plain between the fort and the lake. (*Nutting.*) Not observed in many numbers in the vicinity of Portage la Prairie, Man., but was more numerous in grass marshes in 1906 west to Edmonton, Alta. (*Atkinson.*) Uncommon in parts of Saskatchewan visited by us but quite a number of pairs were located in grassy hollows in the prairies. (*A. C. Bent.*) Common in proper localities as far west as Calgary, Alta. (*W. E. Saunders.*)

BREEDING NOTES.—I found a nest and four eggs of this bird as I was riding over the prairie near Crescent lake, Sask., on June 3rd, 1901. On June 6th, while driving to Saltcoats marshes we flushed another Baird's sparrow off its nest containing five exceedingly handsome eggs. Nest on the ground at the side of the trail. June 7th I found another nest and five eggs, nest, like the other, made of dried grass, lined with hair, built on the ground in short grass. The eggs are like well blotched eggs of the vesper sparrow but are much smaller and averaging .75 x .55 inches. (*W. Raine.*)

CCXXIII. **COTURNICULUS** BONAPARTE. 1838.

546. **Grasshopper Sparrow.**

Coturniculus savannarum passerinus (WILS.) RIDGW. 1885.

Said to occur in New Brunswick by Mr. Adams. (*Chamberlain.*) I am quite sure this species is at Scotch Lake, York county, N.B., but have not secured a specimen. (*W. H. Moore.*)

There are two Toronto records, one in 1879, and the second in 1890. (*J. H. Fleming.*) Fairly common in the two southwestern counties of Ontario; increasing steadily in numbers in the London district. I now meet it every year and sometimes locate five or six pairs in a single season though I have not yet found a nest. (*W. E. Saunders.*)

546*a*. **Western Grasshopper Sparrow.**

Corturniculus savannarum bimaculatus (SWAINS.) RIDGW. 1901.

A summer resident near Vernon, B.C. (*Brooks.*)

CCXXIV. **AMMODRAMUS** SWAINSON. 1827.

547. **Henslow Sparrow.**

Ammodramus henslowii (AUD.) GRAY. 1849.

Thus far we have found this bird only near Sarnia, and at Jeannette creek, Ont., but as about a dozen birds were observed altogether on four different occasions in two years I believe it is a fairly common summer resident in the western peninsula of Ontario

wherever a favourable locality exists. The original discovery was made on May 24th, 1898, when several were noted at Jeannette creek and since then they have been found in the locality on two other occasions. This is the most inconspicuous bird I have ever met with; it runs through the grass like a mouse and does not rise until one is almost on it, when it makes a short zigzag flight and again conceals itself. (*W. E. Saunders.*) I was surprised to find this sparrow on Lake Joseph, Muskoka, and apparently breeding. I first noticed it on July 14th, 1902, in a hay-field about a mile from Port Sandfield, and for some days had every opportunity of watching the males as they sat on the fence and uttered their rather wheezy notes. Two more pairs were in one field, and I could find none in any of the few likely places elsewhere. (*J. H. Fleming* in *The Auk*, Vol. XIX., p. 403.) I met with a pair of these birds near Lansdowne, Ont., in May, 1898. Later found the nest containing four eggs. It was placed in a wet springy place in a meadow and was well concealed under a tuft of grass. The eggs are readily distinguished from those of the Savanna sparrow, of which I have seen numbers. The nest is somewhat similar but more substantial. (*Rev. C. J. Young.*) Saw several on Sable island, N.S., May 18th, 1905 and May 16th, 1907. (*J. Boutelier.*) Mr. Boutelier is probably mistaken in his identifications.

548. Leconte Sparrow.

Ammodramus leconteii (Aud.) Gray. 1849.

A male specimen of this species was given to me as an Acadian sharp-tailed sparrow, taken May 5th, 1897, at Toronto, Ont.; this is the first record for Ontario. (*J. H. Ames* in *The Auk*, Vol. XIV., p. 411.)

The rediscovery of this little known and extremely interesting species in Dakota was made in the season of 1873 by the Boundary Commission. On the march between Turtle mountain and the first crossing of the Mouse (Souris) river, I came upon what seemed to be a small colony of the birds in a moist depression of the prairie. I subsequently found the bird again and secured another specimen. (*Coues.*) This beautiful sparrow abounds in Manitoba wherever there are meadows that offer the right combinations of willow, scrub and sedgy grass, and has been taken by

myself on the west slope of Duck mountain to the north of the province. (*E. T. Seton.*) Rare at Aweme, Man., but probably breeds. (*Criddle.*) Noted occasionally about Portage la Prairie, Man., and about the larger marshes in Manitoba but more numerous in the alkali districts of the west. Noted breeding in 1906 from Touchwood hills, Sask. to Beaver Hill lake, Alta. (*Atkinson.*) In June, 1896, this species was breeding in a marsh at Sewell, Man. (*Macoun.*) First seen at Indian Head, Sask., May 12th, 1892, next seen June 23rd, when two nests were found; each nest contained five eggs; nest made of dried grass under a tuft on the ground; breeding in wet ground ; common on Bragg creek, about 40 miles from Calgary, June 28th, 1897. (*Spreadborough.*) The Calgary reference above should probably go to the Nelson sparrow.

Breeding Notes.—On June 23rd, 1892, I found two nests of this species. Each nest contained five eggs. The nest was placed in old grass close to the ground, and was made of the same. The land was low but not wet. The female was shot as she left the nest. (*Spreadborough.*) In June, 1893, Mr. G. F. Dippie and myself were fortunate in discovering the nest and eggs of this species which were previously little known ; this was at Raeburn, Man. Since then I have found several more nests of Leconte's sparrow in Manitoba and Saskatchewan, all were made of fine dry grass and nothing else and were invariably built in a tuft of marsh hay a few inches above the ground. The eggs are greenish-white speckled at the largest end with ashy-brown and are small, .65 x .50 inches. (*W. Raine.*) On June 12th, 1896, the writer was collecting in a swamp south of Sewell, on the Canadian Pacific railway and came on the nest of a bird new to him. The following is from his note-book and evidently refers to this species. "In the open swamp I found another nest in the grass, almost touching the water which here was standing in the grass and was evidently permanent as *Menyanthes trifoliata* and *Calla palustris* grew close by. When the bird arose I thought it was a clay-coloured sparrow, but on looking into the nest saw four eggs about the same size as the sparrow's but the large end was completely covered with a deep shade of brown which shaded off into a lighter colour and became mottled with a lightish-green. Three eggs were as above, but one was much lighter in colour and hence more distinctly mottled. They were much incubated and were injured in blowing. I refer the eggs to Leconte's sparrow.

549*a*. Nelson Sparrow.

Ammodramus nelsoni (ALLEN) NORTON. 1897.

There are several records for Toronto. Dr. Dwight says the Toronto birds are more *nelsoni* than *subvirgatus*, but not typical. (*J. H. Fleming.*) I took a very fine female on 28th October, 1896, at Toronto, and on the 17th November, Mr. I. Percival Turner took two, a male and female, at the same spot. On the 17th November, 1900, I visited the place again and saw two. (*J. Hughes-Samuel.*) On the 22nd September, 1894, near Toronto, Ont., I shot two individuals of this species; on June 10th, 1895, I shot a female and in the autumns of 1896-97-98 I saw many others. (*C. W. Nash.*)

On my arrival at Winnipeg, Man., Mr. Hine surprised me by producing a specimen of this form, shot at Winnipeg on May 25th, 1892. On June 30th, at Carberry, I heard a curious bird-note and going over the slough to the spot, I put up two small dark-coloured sparrows. I obtained one which proved to be this form; later in the day I took two more; the above specimens were submitted to Mr. F. M. Chapman and pronounced true *nelsoni*. (*E. T. Seton.*) Found breeding in fair numbers with Leconte's sparrow in grassy marshes near Red Deer, Alta., June, 1906. (*W. E. Saunders.*) One specimen taken at Prince Albert, Sask., August, 1899. (*Cobeaux.*) First seen at Edmonton, Alta., late in May, 1897, not common, only observed about a dozen altogether; breeding in wet ground; a few were found breeding in a marsh at Peace River Landing, Alta., June, 1903 and one individual was seen west of the Grande Prairie in August. (*Spreadborough.*)

BREEDING NOTES.—On June 12th, 1893, Mr. Dippie and myself found this bird nesting at Long lake, Man. The nest and eggs I presented to the U. S. National Museum at Washington. On the 14th June, 1894, I again visited the locality and was fortunate in finding another nest and four eggs of Nelson's sparrow and the next day I took another set of five eggs. Nests were made of dried grass and built in a tuft of marsh hay a few inches from the ground. Their voice is like that of a grasshopper and they sing until long after sunset. (*W. Raine.*)

549*b*. Acadian Sharp-tailed Finch.

Ammodramus nelsoni subvirgatus (DWIGHT) NORTON. 1897.

Fairly common about the salt marshes at the mouths of the streams emptying into Minas basin, King's county, N.S., from June to October. (*H. F. Tufts.*) Breeds not uncommonly on the Magdalen islands, N.S. near the seashore. I observed it at Grosse Isle. (*Rev. C. J. Young.*) Several specimens taken in the vicinity of Hampton, N.B. (*Chamberlain.*) A nest of this species was taken near Baddeck, Cape Breton island, July 26th, 1898; this species was not rare along the shore of the bay east of Baddeck. (*Macoun.*) A few birds in the salt marsh at Tignish, Prince Edward island were the only ones I could discover, although I searched in many other localities. (*Dwight.*) Taken at St. Denis de Kamouraska, south shore of St. Lawrence, eastern Quebec; breeding in some numbers. (*Dionne.*) A casual visitor at Ottawa, Ont. One shot in 1882, identified by Dr. Coues. (*Ottawa Naturalist*, Vol. V.)

This form is peculiar to the fresh and salt water marshes of the Maritime Provinces of Canada, especially those bordering on the Bay of Fundy and the Gulf of St. Lawrence. Strangely enough it has never been taken in Nova Scotia, although it undoubtedly occurs there, for I have observed it within two or three miles of the boundary line when rambling over the meadows of the Petitcodiac river in New Brunswick, not far from the type locality. Since my discovery of the birds about ten years ago I have found them breeding at Tignish, Prince Edward island, where they were recorded as *caudacutus* long before *subvirgatus* was separated by Brewster, at Bathurst, N.B., and at Riviere du Loup, Que., on the south shore of the St. Lawrence. They have also been found a few miles west of the last named place at Kamouraska by Dionne. West of this I have not found them, neither at L'Islet nor on the marshes between the city of Quebec and Ste. Anne de Beaupré. Consequently there appears to be a wide gap between the headquarters of this form and those of *nelsoni*,—over one thousand miles. (*Dwight* in *The Auk*, Vol. XIII., p. 276.)

BREEDING NOTES.—This species is tolerably common on low islands in the St. John river, in York county, N.B. The spring migrants arrive in April, the first observed in 1903 was April 22nd, a

week earlier than the Savanna sparrow arrived. They run along among the grasses rather than take flight. The song is a low unattractive s-e-e-t-s-k, emitted either from the ground or from an elevation. They feed about the margin of pools of still water where they seem to procure aquatic insects and grass seeds. Their colours blend most perfectly with such surroundings and it is only by perservering watchfulness that an observer may see them, unless they happen to take flight. The nests are built back from the water where there is no danger from an overflow and are fairly well concealed. The few nests observed have been built of dried grass blades throughout, the lining being composed of the finest material. One nest was a mere film of blades, scarce compact enough to lift from the depression where it was placed. It was built under the side of a log and contained five eggs which were very uniformly marked, there being three distinct varieties of colouring. A set now before the writer, taken May 27th, contains four eggs, .71 x .59, .80 x .58, .72 x .60, .72 x .59. The ground colour is pale greenish-blue marked with cinnamon-brown, umber and blue-gray. The first, third and fourth are so heavily marked as to obscure the ground colour, the second is much more finely and sparsely marked, and with the third most heavily marked about the large end. The nest was placed in a gully having a southern exposure, and was also well concealed by thick grasses. While the writer was walking across an island the bird flushed from under foot and flew quietly away without making the least attempt at alluring its disturber from the vicinity of the nest, nor did it return for some time. The male was not seen at all. The eggs were fresh, which fact probably accounted for the shyness of the birds. (*W. H. Moore.*)

CCXXV. **CHONDESTES** Swainson. 1827.

552. **Lark Sparrow.**

Chondestes grammacus (Say) Bonap. 1838.

One seen on Sable island, N.S. on September 6th, 1902, and a number on October 10th. (*J. Boutelier.*)

This bird breeds regularly at Toronto; a nest was taken at the Humber, May 15th, 1899; it is very local and not abundant. (*J. H. Fleming.*) The first time I saw one of these birds taken at Toronto

was in May, 1884, and I have met with them at intervals since—notably on May 24th, 1885, when I took a specimen and saw another. (*J. Hughes-Samuel.*) A few were regularly observed near London from 1878 till 1889, but none were observed from 1889 till 1900, when a pair spent the summer about ten miles from London, Ont. This species is a fairly common inhabitant of the western counties of Ontario, along the Lake Erie shore, but is rare and, of late, irregular near London. A single one was noted and watched for a short time near Sault Ste. Marie in September, 1880. (*W. E. Saunders.*)

552*a*. **Western Lark Sparrow.**

Chondestes grammacus strigatus (SWAINS.) RIDGW. 1880.

A common summer resident near Winnipeg; a few seen there June 3rd, 1896; one shot by Mr. Hine. The Winnipeg specimens may belong to the eastern form. (*Macoun.*) Rare at Aweme, Man. (*Criddle.*) Collected specimens of this species at Portage la Prairie, Man., in 1896, but have not seen it since. (*Atkinson.*) First saw two May 16th, 1894, at Medicine Hat, Sask., common by the 15th; I believe they breed here as I saw them up to the first week in June when I left; a few specimens seen the last week in May, 1895, at Old Wives creek, Sask.; not seen again until July 1st, when a pair was seen at Sucker creek in the Cypress hills; quite common in the Milk River valley below Pend d'Oreille, later a few were seen at Castellated rocks higher up the river; saw two at Meyer creek near Midway, B.C., May 11, 1905; common at Osoyoos lake, found a nest there June 1st, on a bare hillside; the nest was a deep depression in the ground, under a small sage bush and was made of weeds and grass lined with horse hair. It contained five eggs, incubation far advanced; in the same year it was common on the Similkameen river. (*Spreadborough.*) A very scarce summer visitant both east and west of the Coast range, B.C. (*Brooks.*) Seen only at Vernon, B.C., where two pairs of adult birds were feeding their newly fledged young. (*Rhoads.*)

CCXXVI. **ZONOTRICHIA** SWAINSON. 1831.

553. **Harris Sparrow.**

Zonotrichia querula (NUTT.) GAMB. 1847.

In Miller's "Mammals of Ontario" he notes a specimen seen at Peninsula Harbour, Lake Superior. (*W. E. Saunders.*) A number

of specimens, including adults of both sexes and young just from the nest, were collected, July 23rd to 30th, 1900, at Fort Churchill, Hudson bay, where the birds were common. They frequent the scattered patches of dwarfed spruce that grow in the small valleys and ravines intersecting the extensive expanse of precipitous ledges along the Churchill river in the vicinity of the post. They undoubtedly nest among these spruces but no nests attributable to this species were found. Several were seen on our return to the upper Hayes river, near the Robinson portage and at the Echimamish, Keewatin. (*Preble.*) A fine series of specimens of this handsome and interesting bird was secured at our Mouse river depot, during the latter half of September and beginning of October. Its breeding grounds are as yet unknown. (*Coues.*) Abundant spring and fall migrant, frequenting thickets in Manitoba. (*E. T. Seton.*) Abundant as a migrant in Manitoba. (*Atkinson.*) Specimen shot at Fort Pelly, August 29th, 1881; in flocks 50 miles west of Brandon on the road to Fort Ellice, Man. (*Macoun.*) Only three were seen at Indian Head, Sask., during three months residence in the spring of 1892; these were seen May 12th and 13th. (*Spreadborough.*) Noticed in company with other sparrows at Prince Albert, Sask., Sept. 2, 1900. (*Coubeaux.*) I took two individuals at Sumas, B.C., 10th January, 1895, and saw a third at Chilliwack, B.C. (*Brooks.*) Taken at Cadboro bay near Victoria by A. H. Maynard, October, 1894; and another individual shot at Comox, November, 1894, by W. B. Anderson. (*Fannin.*)

Breeding Notes.—I have pleasure in recording the first authentic nest and eggs of this species. On June 11th, 1901, at Crescent lake, Sask., I was fortunate in finding the nest in the root of a small willow at the edge of a bluff. The nest was made of grass and fine bark, lined with dry grass. The eggs are unlike those of any other sparrow. They are large for sparrows, averaging .88 x .68 inches, and are creamy white, spotted chiefly at the larger end with rusty brown and lilac and have a high polish. The parent bird was secured. This is the third species of sparrow found by me breeding in northwest Canada whose nests and eggs were previously unknown to science. (*W. Raine.*) First seen on Kahinonay island, Great Slave lake as we went north, July 20, 1907. It was there nesting. After that they were abundant nesting in a very large thicket right to the edge of the "barrens." In the Last woods,

August 5, I found the nest. It was under a dwarf birch, was made of grass and resembled the nest of the white-throated sparrow. It contained three young ready to fly. (*E. T. Seton.*)

554. White-crowned Sparrow.

Zonotrichia leucophrys (FORST.) SWAINS. 1831.

Seems to be confined to southern Greenland; not numerous but certainly a breeding bird, though its nest has not yet been found in the country. (*Arct. Man.*) Very plentiful throughout eastern Labrador; breeds abundantly at Fort Chimo. (*Packard.*) Not observed on James bay until a short distance north of Fort George when they became common; very abundant from Richmond gulf across Ungava to Fort Chimo. (*Spreadborough.*) Two specimens taken at Chateau bay, Labrador, July 14th, 1891. (*Norton.*) A common summer resident in Newfoundland. (*Reeks.*) The most abundant land bird in northeastern Labrador; common wherever there was any spruce scrub. (*Bigelow.*) I have six nests and eggs of this bird taken at Nachvak and Whale river, Ungava. (*W. Raine.*) In numbers on Sable Island, N.S., May 25, 1905; one seen May 13, 1907. (*J. Boutelier.*) A very common summer resident in New Brunswick; occurs more frequently at Grand Manan during migration. (*Chamberlain.*) A tolerably common spring and autumn migrant at Scotch Lake, York county, N.B. (*W. H. Moore.*) Common at Lake Mistassini, northern Quebec. (*J. M. Macoun.*) Taken at Beauport; summer migrant in eastern Quebec. (*Dionne.*) A scarce transient visitor at Montreal, both in spring and autumn. (*Wintle.*) First seen at York Factory, Hudson bay where it was abundant and where a small series, including old of both sexes, and young just from the nest, was taken, July 12th to 14th. About the post at Churchill it was extremely abundant July 23rd to 30th, but after passing north of that point we saw no more until our return when ascending Hayes River. (*Preble.*) York Factory, Hudson bay. (*Dr. R. Bell.*) Fort Churchill, Hudson bay. (*Clarke.*)

A common migrant in spring and fall at Ottawa. (*Ottawa Naturalist*, Vol. V.) A sparrow that I have never seen in Ontario in summer; neither did I observe it in June or July on the Magdalen islands. It commonly arrives in Ontario about the 15th of May, and is plentiful by the 19th. It is very tame, frequenting wood-piles and

brush-heaps. In the fall I have seen it on Wolfe Island, near Kingston, in September, but it is not so familiar a bird at that season. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont.; a fairly common migrant in the Parry Sound and Muskoka districts. (*J. H. Fleming.*) Transient visitant at Penetanguishene, Ont.; not very common. (*A. F. Young.*)

A summer migrant in Manitoba, probably breeding in the northeastern regions; abundant at the mouth of the Great Slave river in 1907 but not seen farther northeasterly. (*E. T. Seton.*) A regular but not abundant migrant in Manitoba. (*Atkinson.*) Only seen at Indian Head, Sask. as a migrant between the 9th and 20th May; they were quite common for some time. First seen on May 4th at Medicine Hat, Sask; they were common by the 9th, but were all gone by the 15th. On June 24th of the same year they were common in all the brush on the east end of the Cypress hills and were certainly breeding. First seen at Edmonton, Alta., May 7th, 1897; none seen after the ninth. All were migrants. (*Spreadborough.*) First noticed in numbers at Prince Albert, Sask., last spring (1899). Probably common but irregular in its visits. (*Coubeaux.*)

554*a*. Gambel Sparrow.

Zonotrichia leucophrys gambeli RIDGW. 1899.

I was surprised to find that the white-crowned sparrows of the Mouse (Souris) river were the variety instead of typical *leucophrys*, but such was the case, as shown beyond question by some of the specimens taken with perfect head-dress; found also in the Rocky mountains in the autumn where they possibly breed. (*Coues.*) A regular but not abundant migrant in Manitoba, rather more numerous than *leucophrys*. (*Atkinson.*) North to Lapierre House on the Mackenzie river. (*Ross.*) Abundant on islands in Great Slave lake in 1907. (*E. T. Seton.*) This species is a northern bird and breeds in all parts of the Northwest Territories, arriving about the middle of May and leaving early in September. (*Richardson.*) North to Fort Resolution on Great Slave lake; rare. (*Ross.*) This was common as a migrant at Indian Head in 1892, and at Medicine Hat, Sask., in May 1894. About forty mile southwest of Calgary this species was rather common; a nest was taken June 28th having five fresh eggs, placed

at the root of a clump of willows; on Moose mountain, at 6,000 feet altitude, found a nest with six fresh eggs, the same day another nest was taken at 7,500 feet, containing three young and two eggs; common in the foothills from Calgary south to Crow Nest pass; common from Prairie creek, Alta. to the Henry House, 1898; very common and breeding at Banff, Rocky mountains, in 1891 ; first seen April 23, at Penticton, Lake Okanagan, B.C., where they became common; very abundant at Revelstoke, B.C., in April, 1890; one seen at Trail near the 49th parallel, 1902, nearly all the specimens taken were males; in May many were breeding in burnt woods all around the town; rather common at Sicamous, B.C., in July, 1889, and at Kamloops and Spence Bridge also; common at Fernie and Elko, B.C., in 1904, and at Midway and Whipsaw creek in 1905; saw a number on a mountain 14 miles south of Hope, B.C., at an altitude of 6,000 feet, breeding. (*Spreadborough.*) Two were seen at Lake Okanagan, B.C., December 16th, 1898. Common migrant at Chilliwack, B.C. (*Brooks.*) . During migration this race is sparingly scattered as far west as Vancouver island, where I took two specimens. It became more frequent on the western slope of the Coast range, and in the interior I found it breeding at higher latitudes and altitudes. (*Rhoads.*) Rare spring and fall migrant in British Columbia. (*Streator.*) I found this bird very common east of the Coast range. (*Fannin.*) Descending from the bleak snow-covered rocks of White pass we reached Portage on June 14th, a country of more luxuriant vegetation. Here this sparrow appeared and continued with us to Circle City, Alaska. (*Bishop.*) Everywhere in Alaska, the presence of bushes and timber is an almost certain indication of this bird's presence in summer. (*Nelson.*) This species is quite abundant among the alder patches on all parts of the island of St. Michael and breeds in considerable numbers. (*Turner.*) This bird occurs at Point Barrow only as a straggler. Only a single individual was taken. (*Murdoch.*) Occasionally seen on the high grounds of Kenai mountains, Alaska, a few hundred feet above timber line. (*Figgins.*) A few of Gambel's sparrows were observed in the vicinity of Cape Blossom, Kotzebue sound, in July. They were always seen in brush patches or at their borders, just as is the case in winter in southern California. (*Grinnell.*) One female specimen taken at Point Barrow, Alaska, is typical in every way. (*Witmer Stone.*)

Breeding Notes.—The following spring the arrival of Gambel's sparrow, as indicated by its beautiful song, was in the evening of May 21st, and the species soon became common. The song is a clear sad strain of five syllables, and with rising inflection. In the Kowak delta on the 11th June, I obtained a set of six eggs in which incubation had commenced. The nest was sunk into a hummock of moss on the ground under some alder bushes on a hillside. A clump of dead grass partly concealed it from view. It consisted of dry grasses, lined with finer grass and black rootlets. The eggs are pale Nile blue, rather evenly covered with irregularly outlined spots of chocolate and vinaceous. They are ovate, and measure .83 x .63, .81 x .62, .86 x .63, .85 x .64, .83 x .62, and .76 x .60. the latter being a runt egg. (*Grinnell.*)

The intermediate sparrow breeds in great numbers in the wooded sections of Anderson district. The nests were nearly always placed on the ground, in the tufts of tussocks of grass, clumps of Labrador tea (*Ledum palustre*) and amid stunted willows. They were composed of fine hay and lined with deer hair, occasionally mixed with a few feathers. Several were made entirely of the finer grasses. The usual number of eggs was four, but a lot contained as many as five and six. Upwards of one hundred nests were collected in the region referred to. (*Macfarlane.*) On June 13th, 1893, at Banff, Rocky mountains, I came across a nest and five eggs of this species, it was built at the side of a grassy mound and made of dried grass lined with hair. At Peel river, Arctic America, on June 2nd, 1898, Rev. C. E. Whittaker found a nest and four eggs built in a patch of moss on the ground. (*W. Raine.*)

555*b*. Nuttall Sparrow.

Zonotrichia leucophrys nuttalli Ridgway. 1899.

Common about the prairie and open timbered spots. (*Lord.*) West of the Coast range, especially on the coast; this is the most abundant small bird in the neighbourhood of Victoria. (*Fannin.*) Rare migrant at Chilliwack. (*Brooks.*) Taken at Agassiz and Yale in May, 1889; observed five at the mouth of Tami Hy creek, Chilliwack valley; very abundant at Huntingdon, B.C., on September 9th, 1901, feeding on thistle seed; common at Douglas, B.C., after April 25, 1906; first seen on April 10th, at Victoria, but common by

April 17th, 1893; nest found May 11th on the ground, made of dry grass, lined with hair and containing three eggs; a summer resident on all parts of Vancouver island, they do not appear to be common at Comox. (*Spreadborough.*) A very common species on Vancouver island; it was abundant on roadsides and in fields at Salt Spring island and Comox in May, 1887 (*Macoun.*) A very abundant summer resident on the coast of British Columbia. (*Rhoads.*)

557. Golden-crowned Sparrow.

Zonotrichia coronata (PALL.) BAIRD. 1858.

Common about the prairies and open timbered spots. (*Lord.*) A very abundant spring and fall migrant. (*Streator.*) An abundant summer resident. (*Fannin.*) Not common; migrating in the lower Fraser valley; breeds on the mountain tops at timber line. (*Brooks.*) Quite rare at Hastings, Agassiz, and Vancouver in April, 1889; common at Douglas, B.C., in April and May, 1906; not rare on Vancouver island at Victoria in spring, seen for the first time April 27th, in 1893; by May 9th they had disappeared; not common at Clayoquot sound, Vancouver island, a few were seen in September, 1907. (*Spreadborough.*) Abundant at Salt Spring island and Comox in May, 1887. (*Macoun.*) In abundant flocks during our stay at Goldstream, Vancouver island. I am inclined to doubt Mr. Fannin's statement that they are resident on Vancouver island and would restrict their southern range in summer to the Queen Charlotte islands. (*Rhoads.*) At English bay, near Vancouver city saw a flock of nearly 100, May 4th, 1890; very common on Sumas prairie in October of the same year. (*E. F. G. White.*)

A few of these sparrows were seen and heard on August 21st in brush among spruces back of our camp on the Kowak river, Kotzebue sound. They were not common at any time. (*Grinnell.*) Common in the low, second growth brush about the village of Hope, Cook inlet, Alaska; also occasionally seen on the mountains there. (*Osgood.*) This sparrow was found on the heights above glacier near Skagway and was common at White Pass summit and continued to Portage, B.C. A nest almost finished was found in a conifer at Summit lake, June 12th. (*Bishop.*) Seen at Kenai mountains and Homer, Alaska. Was not seen at Homer until late summer when it became very common. (*Figgins.*) Four adults

were taken at Muller and one at Seldovia, Alaska. (*Anderson.*) The last of May, from the 25th to the 30th, it arrives in the vicinity of St. Michael, and breeds sparingly along the Behring sea coast of the territory, and more rarely on the shores of Kotzebue sound. From the peninsula of Alaska south to Puget sound it is a common resident; its range extends beyond the Arctic Circle. (*Nelson.*) A pair of these birds was shot in June, 1876, on the western end of Whale island, near St. Michael; they are not common in the interior. (*Turner.*)

558. White-throated Sparrow.

Zonotrichia albicollis (Gmel.) Swains. 1837.

Reported by Stearns as common and breeding in southern Labrador; Audubon states that this species is common, and that they saw young late in July; Drexler obtained this species at Moose Factory on May 31st, 1860; Verrill reports this species as far the most common singing bird on Anticosti. (*Packard.*) Two specimens taken at Chateau bay, Labrador, July 14th, 1891. (*Norton.*) A common summer migrant in Newfoundland. (*Reeks.*) Fairly common along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*)

An abundant summer resident in Nova Scotia. (*Downs.*) Not uncommon on Sable island in the spring and autumn of 1902; several seen May 13, 1904, one May 3, 1905; several came in a northwest gale, September 30, 1905; seen in numbers May 10 and 20 and September 23, 1906; several seen April 1, one September 26 and others October 24, 1907. (*J. Boutelier.*) Common at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; not uncommon at Brackley Beach, Prince Edward island, nests taken June, 1888. (*Macoun.*) This bird, so characteristic of the Canadian fauna, is less abundant than the ubiquitous juncos, but on account of its loud and striking song is far better known to the average inhabitant of Prince Edward island. (*Dwight.*) Breeding abundantly at Sydney, Cape Breton island. (*C. R. Harte.*) Common in Nova Scotia from May to October. (*H. F. Tufts.*)

A common summer resident in New Brunswick. (*Chamberlain.*) An abundant summer resident at Scotch Lake, York county, N.B.

(*W. H. Moore.*) Abundant in the Restigouche valley, N.B. (*Brittain & Cox.*) Common on the Magdalen islands; nesting about the last of June. (*Bishop.*) Everywhere about the Gulf of St. Lawrence, save on the wind-swept Magdalens, this bird was an abundant species. (*Brewster.*) Common at Lake Mistassini in northern Quebec. (*J. M. Macoun.*) Taken at Beauport; a common resident in eastern Quebec. (*Dionne.*) A common summer resident at Montreal; breeds in Mount Royal park. Observed here from April 24th to October 30th. (*Wintle.*)

A common summer resident at Ottawa and breeding. (*Ottawa Naturalist,* Vol. V.) Common migrant at Toronto, Ont., probably breeds; a common summer migrant in the Parry Sound and Muskoka districts. (*J. H. Fleming.*) A very common summer resident at Guelph, Ont., arriving about April 20th and leaving about October 30th. (*A. B. Klugh.*) Abundant everywhere in Algonquin park, Ont.; found a nest on the ground in a bunch of grass, July 15th, 1900; eggs quite fresh; common in 1903 from Missinabi to Point Comfort on the east coast of James bay and on the west coast north to Cape Henrietta Maria. (*Spreadborough.*) A common migrant but a rare breeder at London; found only in openings in deep cedar swamps. Forty miles north of London and in the Bruce peninsula it is quite common. (*W. E. Saunders.*) A common summer resident at Penetanguishene, keeping well to the deep swamps and probably breeds as they remain throughout the summer. (*A. F. Young.*) Abundant throughout the region between Norway House and York Factory, Hudson bay. It was especially numerous in the extensive tracts which had been devastated by fire. A few were noted, one of which was collected at York Factory in July, 1900; on our return trip a few were seen at Oxford lake, September 11th. (*Preble.*) Fort Churchill, Hudson bay. (*Clarke.*)

A common summer resident in woodlands in Manitoba; found breeding at Carberry, Shell river, Little Boggy creek and Duck mountain. (*E. T. Seton.*) Only seen at Indian Head, Sask., between the 9th and 20th May, 1892, when they all migrated to the north; a few were observed at Moose Jaw and Old Wives creek, Sask., in May, 1895, but they soon disappeared; first seen at Edmonton, Alta., May 6th, 1897; shortly after they became common and remained to breed; abundant from Lesser Slave lake to Peace River

landing, Alta., lat 56° 15′, in June, 1903; observed from Edmonton to the Pembina river in June, 1898. (*Spreadborough.*) One of the most abundant birds at Grand Rapids, Saskatchewan river; it breeds there in great numbers. (*Nutting.*) First noticed at Prince Albert, Sask., in company with other sparrows on September 2, 1900. (*Coubeaux.*) This species reaches the Saskatchewan about the middle of May, and spreads throughout the Northwest Territories up to lat. 66° to breed. (*Richardson.*) North to Fort Simpson on the Mackenzie river; rare. (*Ross.*) First seen May 7th, 1888, near Calgary; common from there to Edmonton and Athabaska Landing and up to Lesser Slave river, down the Athabaska to Clearwater river, and up that river to Methye portage and thence to Isle à la Crosse; it is the chief bird of the whole reigon. (*J. M. Macoun.*)

Breeding Notes.—Nest on ground among bushes, composed of grass, weed stems and moss, lined with rootlets and fine grass. Eggs 4, dull white, spots and splashes of brown and lavender. (*G. R. White.*) I have observed that this bird is sparingly distributed throughout eastern Ontario through the summer. In June, 1888, I found two nests on the rocky ground, two miles west of the village of Renfrew, Ont., one in a small thick bush, the other among grass, etc., on the ground. During ten years I observed one pair close to Lansdowne, Ont., that by their manner had young, though I did not succeed in finding the nest. I saw one bird on the Magdalen islands and have seen two nests taken in 1899 near Mingan, Que., where it commonly breeds; breeds abundantly in North Frontenac and North Hastings, Ont. (*Rev. C. J. Young.*) I found a nest of this bird May 24th, 1886, in the park, built in the roots of an up-turned tree stump, containing four eggs, and another nest May 30th, 1891, at Hochelaga woods containing three eggs, built on the ground in a tussock of grass. (*Wintle.*) I took a nest near Sand lake on May 25th, 1897. It was placed under some dead ferns on the flat, grassy bank of a stream, and was lined with moose hair; there were four eggs in the set. I took a nest some years ago at Rosseau, built about three feet up in a raspberry bush. (*J. H. Fleming.*) On June 8th, 1893, I found a nest and eggs at Long lake, Manitoba; June 19th, 1901, I found two nests at Carleton Junction, 40 miles west of Ottawa, one nest was on the ground, the other in a brush heap some distance above the ground. (*W. Raine.*) The nesting

season of this species is from May to August; eggs from three to five in a set placed in a snugly built nest of grasses, lined with finer grasses and hair, placed in brush or on the ground and well concealed; the birds show much anxiety when one approaches the nest. The young when fledged do not show white on the head or throat. (*W. H. Moore.*) Near Ottawa and at Lake Nominingue, 100 miles north of it, the nest is found in woods, under branches, in a bed of green moss, or sometimes in a bush. It is built of coarse grasses, rotten wood, dried leaves and usually green moss. The lining is fine grass or hairs. The set is of three or four eggs laid in June or July. (*Garneau.*) In June, 1903, two nests of this species were found by the writer in a swampy thicket near Ottawa; one was in a clump of dead Carex stems (*Carex riparia*) and the other in a very old brush-heap. (*Macoun.*)

CCXXVII. **SPIZELLA** BONAPARTE. 1832.

559. Tree Sparrow.

Spizella monticola (GMEL.) BAIRD. 1858.

Common throughout Labrador. Breeds plentifully at Fort Chimo, where eggs and nests were taken. (*Packard.*) None seen on James bay until a little north of Fort George when they became common. Very abundant across Ungava from Richmond gulf to Fort Chimo in the summer of 1896. (*Spreadborough.*) Rather uncommon in northeastern Labrador, but widely distributed. I observed a good many at Port Manvers, lat. 57°. (*Bigelow.*) A common winter visitor in Nova Scotia. (*Downs.*) Fairly common in winter in Nova Scotia. (*H. F. Tufts.*) A regular winter visitor in New Brunswick. (*Chamberlain.*) A winter visitor at Scotch Lake, York co., N.B.; tolerably common in some localities. (*W. H. Moore.*) Two seen at Parsboro, N.S., in company with three slate-coloured juncos on January 25th, 1899. (*Morrell.*) Quite common at Lake Mistassini, northern Quebec, breeding, in 1885. (*J. M. Macoun.*) Taken at Beauport; a winter visitor in eastern Quebec. (*Dionne.*) A transient but common visitant at Montreal; observed here in spring from April 7th to 28th, and in the autumn from October 25th to November 7th. (*Wintle.*) Observed at Albany, James bay, migrating south and from there to Missinabi on our way up Moose river. (*Spreadborough.*) We have four sets of eggs in our collection,

three being from Whale river, Hudson bay, and one from Fort Chimo, Ungava.

A common migrant in spring and fall at Ottawa. (*Ottawa Naturalist*, Vol. V.) A northern breeder, common in Ontario in the early spring, where it is one of the first birds to come. (*Rev. C. J. Young.*) Winter resident at Toronto, Ont., sometimes abundant. A regular winter resident in the Parry Sound and Muskoka districts; common at Sand lake in October, 1900. (*J. H. Fleming.*) A common migrant at London, Ont.; a few are found most winters in sheltered places. (*W. E. Saunders.*) Winter visitor at Guelph, Ont. (*A. B. Klugh.*) A rare and transient visitor at Penetanguishene, Ont. (*A. F. Young.*)

No tree sparrows were observed in summer during either season, (1873-74) and I think none breed as far south as this. They appear in numbers with the general migration which brings the northern fringillines, and which reaches this latitude about the 1st of October. (*Coues.*) Abundant migrant in Manitoba, frequenting thickets. It commonly frequents thick copses rather than trees, and its general habits would entitle it to be called scrub sparrow rather than tree sparrow. First noted in 1907 near the east end of Great Slave lake, afterwards abundant and nesting to the "barrens" where there were small thickets. (*E. T. Seton.*) Abundant migrant at Aweme, Man. (*Criddle.*) Abundant migrant everywhere in Manitoba. (*Atkinson.*) First seen at York Factory, Hudson bay, where the species was rather common, and a young bird not long from the nest was taken July 12th, 1900. It was abundant at Fort Churchill, July 24th to 30th, and we took a series at that point. Many were noted on the "barren grounds," fifty miles south of Cape Eskimo, August 4th to 8th. On our return trip several were seen at Duck point, Playgreen lake. (*Preble.*) Fort Churchill, Hudson bay. (*Clarke.*)

559*a*. Western Tree Sparrow.

Spizella monticola ochracea BREWST. 1882.

Very common in the spring at Indian Head, Sask.; first seen at Medicine Hat, Sask., April 10th, 1894, and all were gone by the 18th; rare at Edmonton, Alta., in April, 1897; the bulk of the migration had passed before I reached there; a few observed at Lesser Slave

lake, and one individual at Peace River Landing in lat. 56° 15′ in June, 1903; rather common at Penticton, B.C., early in April, 1903; quite common at Revelstoke, B.C., in April, 1891, feeding on the ground up to April 17th, when they disappeared; from the crossing of the McLeod river, October 6th, 1898, to Edmonton, Alta., the species was common, evidently passing south. (*Spreadborough.*) Common at Athabaska Landing, ninety miles from Edmonton, May 24th, 1888. (*J. M. Macoun.*)

This little bird arrives in small flocks on the Saskatchewan in the third week in April, and after a short halt proceeds further north to breed. (*Richardson.*) North to Lapierre House on the Mackenzie river; abundant. (*Ross.*) This is perhaps the most abundant sparrow found breeding in the valley of Anderson river, as is evidenced by the number of nests, two hundred and sixteen, secured. Most of them were found on the ground and others on dwarf willows at a height of one to four feet. Four and five eggs and sometimes as many as six and seven appeared to be the complement. (*Macfarlane.*)

Regular summer visitor. (*Lord.*) Migrant; not common at Chilliwack; a few stay all winter at Lake Okanagan, B.C.; a few bred at Barkerville, Cariboo district, B.C., 1901. (*Brooks.*) Taken on Vancouver island by A. H. Maynard. (*Fannin.*) At Haine Mission, Lynn canal, I took a female, June 2nd, 1899. At Cariboo Crossing, lat. 60°, B.C., we took two pairs, June 29th, one of them with a nest containing three fresh eggs. The nest was buried in moss at the foot of a clump of willows in a willow swamp near the lake; it was composed of fine dry grasses, lined with feathers covered externally with a thick coating of living moss. It was occasionally seen the whole length of the Yukon river to St. Michael. (*Bishop.*) The western tree sparrow was numerous at Cape Blossom, Kotzebue sound, Alaska. The patches of stunted willow and alder back among the hills seemed to be particularly favoured by this species, and in such localities full-fledged young and moulting adults were found in the latter part of July. (*Grinnell.*) This species is very common, especially along the coast of Behring sea, and of all the birds that frequent bushes this is the most common to the north. (*Nelson.*) This species arrives at St. Michael and remains about two and one-half months. It breeds in the alder thickets that skirt

the small lakes and low grounds. It is quite common. (*Turner.*) One specimen taken at Homer, Kenai peninsula, Alaska, September 8th, 1901, by Figgins. (*Chapman.*)

Breeding Notes.—In the Kowak delta on the 14th and 15th of June I took a set of five and one of six slightly incubated eggs, respectively. The two nests were similarly placed in the tops of clumps of grass at the edge of a marsh about six inches above the water. The nest proper consisted of closely-matted broad dry grass blades and stems, while the lining was entirely of white ptarmigan feathers, though not one shows above the rim. The deeply cup-shaped cavity is thus pure white, though when the bird was sitting she entirely concealed it. The internal diameter of the nest is 2.00, depth, 1.90; external diameter, 4.80, depth, 2.60. The ground colour of the egg is very pale blue. The set of six is quite uniformly and thickly spotted with liver-brown and vinaceous tints. One egg of the set of five is like them, but the others are wreathed at the large ends with confluent markings of the same colours, while the rest of the surface is very finely dotted and blurred with a pale brown tint; so as to nearly obscure the ground colour. The eleven eggs average .74 x .57. (*Joseph Grinnell.*) I have several sets of eggs from the Mackenzie delta; a nest and five eggs were found by Rev. C. E. Whittaker on June 18th, 1900 at Peel river; another nest with five eggs was found at the foothills of the Black mountains by Mr. Stringer on June 13th, 1899; another clutch of four eggs was found, west side of Mackenzie delta, by Mr. Stringer on June 8th, 1899; the nests are made of dried grass warmly lined with feathers and were built on mossy knolls on the ground. (*W. Raine.*)

560. Chipping Sparrow.

Spizella socialis (Wils.) Bonap. 1838.

A common summer migrant in Newfoundland. (*Reeks.*) Common summer resident in Nova Scotia. (*Downs; Tufts.*) Common at Sydney, Cape Breton island. (*C. R. Harte.*) Common at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; quite common at Brackley point, Prince Edward island, June, 1888. (*Macoun.*) Not a common species and only occasionally observed on Prince Edward island. (*Dwight.*) A common summer resident in New Brunswick. (*Chamberlain.*) Common summer resident

at Scotch Lake, York county, N.B. (*W. H. Moore.*) Rare in Restigouche valley; only seen in the nieghbourhood of Campbellton, N.B. (*Brittain & Cox.*) Seen only at Gaspé, Quebec, where it was common. (*Brewster.*) Common in eastern Quebec, in summer. (*Dionne.*) An abundant summer resident at Montreal. Breeds in the city and in Mount Royal park. I have found their nests with eggs from May 21st to July 22nd, and have observed this sociable little bird here from April 23rd to September 28th. (*Wintle.*)

A common summer resident in and around Ottawa; breeds in the city. (*Ottawa Naturalist*, Vol. V.) Common summer resident at Toronto, Ont. A common summer resident in Parry Sound and Muskoka districts; usually breeding about the settlements. (*J. H. Fleming.*) Abundant summer resident at Guelph, Ont.; arrives about April 20th and leaves about October 20th. (*A. B. Klugh.*) A pair bred near the buildings at Câche lake, Algonquin park, Ont. June, 1900. (*Spreadborough.*) A breeding summer resident at Penetanguishene, Ont. (*A. F. Young.*) Much less common in the city of London, Ont., than it was 20 years ago; but still fairly common over the whole country. (*W. E. Saunders.*) One observed at God lake, Moose river, May 30th, 1896; common at Moose Factory, June 9th; none seen further north. (*Spreadborough.*) A few chipping sparrows were seen about the post at Norway House, one of which was collected. We also met with them about the buildings at Oxford House and saw one or two on an island in Knee lake July 5th, 1900; none seen further north. (*Preble.*)

Specimens of this very common and familiar species were taken in the Rocky mountains, and it was observed at other points where none were secured. (*Coues.*) This species is quite rare in Manitoba. The earliest record I have is April 10th, 1882, but this was the only one seen at the time, and it was fully two weeks before others appeared. I found one nest in a little spruce tree, but was too late as the birds had flown. The nest is almost invariably lined with horse hair, whence the other common name "hair bird." (*E. T. Seton.*) Tolerably common at Aweme, Man. (*Criddle.*) A regular and fairly numerous breeding species in the settled districts of Manitoba.. (*Atkinson.*) Rare, two seen in the Cypress hills, Sask., in 1905 and Dr. Bishop collected one on Mackay creek in

1906. (*A. C. Bent.*) Very abundant about Grand Rapids and Chemawawin, North Saskatchewan river, at the latter place they were feeding largely on the seeds of aquatic plants on the margin of the slough east of the village. (*Nutting.*) Not common at Indian Head, Sask., in the spring of 1892; first seen at Medicine Hat, Sask., May 9th, 1894, after that they became common, but decreased in numbers towards the end of the month; in 1895 none were seen until we reached Milk river late in July; they were in profusion at Pend d'Orielle, at Castellated rocks, St. Mary river and Waterton lake, foothills of Rocky mountains; a very common resident at Edmonton and southward in foothills to Crow Nest pass; saw one individual at the crossing of McLeod river, June 19th, 1898; common at Jasper lake, Yellowhead pass, July 2nd; common from Lesser Slave lake to Peace River Landing, Atha., lat. 56° 15′, in June, 1903. (*Spreadborough.*) Abundant along the trail between Edmonton and Athabaska Landing, but rather rare on the Athabaska; common up the Clearwater river and between Methye portage and Isle à la Crosse. (*J. M. Macoun.*) Not uncommon but much less abundant than the tree sparrow around Prince Albert, Sask.; breeding in the region. (*Coubeaux.*) North to Fort Simpson on the Mackenzie river; abundant. (*Ross.*) Several specimens of this sparrow were obtained from Fort Yukon in June, 1876. (*Turner.*) I would refer all British Columbia specimens collected by myself and Mr. Streator, including those from the coast, to *socialis* with the exception possibly of six skins collected at Ashcroft. (*Rhoads.*) Common at Donald on the Columbia river, B.C., May 20th, 1894. (*E. F. G. White.*)

Breeding Notes.—Nesting in low trees and shrubs; quite common around Ottawa. Nest composed of fine dried grass lined with hair. Eggs, four or five. Bluish, speckled with blackish-brown and purple. (*G. R. White.*) With us from last of April to October. The nests are built in apple trees or small spruces, and made of grasses lined with hair. The eggs number from three to five. One summer some nests were found to have their eggs broken in them. It was some time before I could find out the cause. At last one morning, when sitting in view of a nest on an apple tree, a fine male of this species was seen to deliberately pick a hole in the shell of an egg and drink its contents. I then surmised that it was this bird that was doing all of the mischief. (*W. H. Moore.*) This species

nests in bushes or on the middle branches of large trees at Ottawa. The nest is composed of rootlets and lined with hair. (*Garneau.*)

560*a*. Western Chipping Sparrow.

Spizella socialis arizonæ COUES. 1872.

This species found to be common at Banff and breeding in the summer of 1891 ; not uncommon at Revelstoke and in Eagle pass in May, 1890; further down the Columbia river at Deer park and Robson it was quite common and seemed to increase to the south; quite common at Kamloops and Spence Bridge in 1889; common at Elko, B.C., in May 1904, breeding by May 24; common in 1905 through the whole country between Midway and Chilliwack lake; observed several individuals at Chilliwack, B.C., in the spring of 1901; a few seen at Penticton in April, 1903; first seen at Victoria, Vancouver island, April 26th, 1893, quite common by May 9th; an abundant summer resident at Victoria, Nanaimo and Comox. (*Spreadborough.*) Regular summer visitor in British Columbia. (*Lord.*) Found only in the interior, where it breeds abundantly. (*Streator.*) An abundant summer resident east and west of the Coast range ; breeds in the neighbourhood of Victoria. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Six skins taken at Ashcroft, B.C., are considered intermediate between this and the eastern form. (*Rhoads.*)

BREEDING NOTES.—Common summer resident near the International Boundary at Trail, B.C.; found a nest and three eggs June 5th, 1902, in a small bush about 18 inches from the ground, made of dried grass and lined with hair. (*Spreadborough.*) We found this species daily from Log Cabin on the White pass to Dawson on the Yukon, lat. 64° 15′, between June 15th and August 1st, 1899. We found a nest with four eggs at Lake Bennett, June 24th. Large young in a nest on Tagish lake, June 30th. Young able to fly were met with at Marsh lake, July 5th, and a set of three eggs on Thirty-mile river, July 18th. The nests were in small spruces, one, four inches, the other three feet from the ground. Gambel's sparrow, slate-coloured junco and this species are, in point of numbers, the commonest sparrows on the Yukon river. (*Bishop.*)

561. Clay-coloured Sparrow.

Spizella pallida (SWAINS.) BONAP. 1838.

On May 9th, 1894, while hunting in a field of small shrubs about 15 miles west of London, Ont., I saw a small sparrow sitting on the top twig of a shrub, after the manner of the field sparrow and heard him give a note whose author I was looking for. It proved to be a *Spizella pallida*, the first recorded, I believe, in our province, though they may yet be found inhabiting the northwestern extremity, next to Manitoba. (*W. E. Saunders.*) The western meadow lark, Brewer's blackbird and the present species were the chief birds I observed at Pembina to indicate an avi-fauna in any wise different from that of the eastern province at large, and two of these cannot be considered very strong marks since they both occur some distance further eastward. (*Coues.*) Very abundant summer resident in Manitoba on scrubby prairies and half open lowlands. This small sparrow arrives in flocks about the 12th May. Its small size and pale-ashy hue will generally identify it as it rambles over the scrubby part of the prairie. (*E. T. Seton.*) This species was first seen at Indian Head, Sask., on May 20th, 1892. In a few days after they were quite common, and on June 7th I found a nest in a low bush lined with dried grass and horse hair. This species is found everywhere on the prairie wherever there is brush from Manitoba to the foothills of the Rocky mountains. It nests chiefly in rose bushes, but I have found them on the ground at Frenchman river, under sage brush (*Artemisia cana*). Nests were found at Spur creek in the sage brush as late as July 7th with fresh eggs ; common at Canmore in the Bow valley, but scarce at Banff in the Rocky mountains in June, 1891 ; first seen at Edmonton, Alta., May 31st; found a number of nests, all on the ground at the roots of a little clump of willows; none of the nests were more than four inches above the ground, and were made of dried grass lined with horse hair; eggs from two to five in a set; common in the foothills, 40 miles southwest of Calgary; common in all the open country from Lesser Slave lake to Peace River Landing, lat. 56° 15′ in June, 1903; common from Edmonton to Pembina river in June, 1898. (*Spreadborough.*) Three specimens secured at Grand rapids of the Saskatchewan. (*Nutting.*) Commonly seen in company with the tree sparrow and probably breed-

ing around Prince Albert, Sask. (*Coubeaux.*) This species frequented the farm-yard at Carlton House on the Saskatchewan, and was as sociable as the English house sparrow. (*Richardson.*) North of Fort Resolution on Great Slave lake. (*Ross.*) Two males taken at 150-Mile House, Cariboo district, B.C., July 3rd, 1901. (*Brooks.*)

Breeding Notes.—Upon my arrival, the 1st of June, the buntings were all paired, the males were in full song, nidification was mostly finished, and the eggs were about to be laid. The first specimen procured, June 2nd contained a fully formed egg. A nest taken June 5th was scarcely completed. The first complement of eggs was taken June 11th; it numbered four. I think the eggs are mostly laid by the end of the second week in June. The nest is placed in bushes, generally within a few inches of the ground; it resembles that of the chipbird, though it is not so neatly and artistically finished, and often lacks the horse-hair lining, which is so constant and conspicuous a feature of the latter; in size it averages about three inches across outside by two in depth, with a cavity two inches wide and one and a half inches deep; the structure is of fine grasses and slender weed-stalks, with or without some fine rootlets, sometimes lined with hair, like the chippy's, sometimes with very fine grass tops; it is placed in a crotch of the bush or in a tuft of weeds; the copses of scrubby willows I found to be favorite nesting places, though any of the shrubbery along the river bank seemed to answer; on those occasions when I approached a nest containing eggs, the female fluttered silently and furtively away, without venturing a protest; the eggs I found in one case to be deposited daily till the complement was filled; they measure 0.62 in length by 0.50 in breadth on an average; the ground-colour is light dull green, sparsely but distinctly speckled with some rich and other darker shades of brown, these markings being chiefly confined to the larger end, or wreathed about it, though there are often a few specks here and there over the rest of the surface; from the earliness of the first sets of eggs, I suppose that two broods may be reared each season. (*Coues.*) The spot chosen for their home is mostly in a low bush, not more than a foot from the ground; as exception to this rule I have noted five nests on the ground and one or two at a height of three feet; it is a very slight structure, a good deal like that of a chipping sparrow, but

composed entirely of grass; when compared with other tree nests it is conspicuously flimsy and light-coloured, the latter effect being due to the absence of the black fibrous roots so commonly used as lining; the eggs are among the most beautiful of any produced by the sparrows; when first the discoverer draws aside the bush and exposes the nest with its complement, his feelings are as of finding an exquisite casket of jewels; although this is one of the most common of our sparrows, and although on the scrubby plain between the Duck mountain and the Assiniboine in early June, I could have found as many as four or five nests in an hour's walk, the treasure-trove feeling in connection with the eggs continues in full force. I infer from the above and other observations that the shattuck bunting breeds twice, if not three times each season with us; it leaves the "big plain" about the end of September. (*E. T. Seton.*) Builds in rose bushes, snowberry and wolf-willows generally from one to two feet from the ground; in size it is about three inches in diameter, but the cavity is less than two inches across. The nest is built of the stems of finer grasses and quite an open structure lined inside with coarse dark horse-hair, other nests were lined with white hair; in June, 1896, two nests were taken at Sewell, Manitoba, each contained four eggs and was built in bushes of dwarf birch, *Betula glandulosa.* (*Macoun.*)

562. Brewer Sparrow.

Spizella breweri CASS. 1856.

Eastern slope of Coast range and Rocky mountain district; also on the Similkameen river, B.C. (*Fannin.*) One specimen taken in the pine woods above Ashcroft, B.C. (*Rhoads.*)

563. Field Sparrow.

Spizella pusilla (WILS.) BONAP. 1838.

An uncommon summer resident in Nova Scotia. (*Downs.*) Several specimens seen October 4th, 1902, on Sable island, N.S. (*J. Boutelier.*) A few specimens seen June 8th, 1902, at Sydney, Cape Breton island. (*C. R. Harte.*) A pair in breeding plumage was taken on Entry island, Magdalen islands, Gulf of St. Lawrence, July 8th, 1887. (*Bishop.*) Of doubtful occurrence in eastern Quebec. (*Dionne.*) A scarce summer resident at Montreal. I

have not secured a specimen as yet, but I believe I have come across them on various occasions. (*Wintle.*)

In each of the years 1888, 1889 and 1890 at least one individual of this species has been observed several times through the summer. (*Ottawa Naturalist*, Vol. V.) Quite a number of field sparrows were noted at Eganville, Renfrew co., Ont., Oct, 12th, 1906. A few days previously Mr. E. White saw one or more near Ottawa. (*Rev. G. Eifrig.*) Not common in eastern Ontario. (*Rev. C. J. Young.*) Summer resident at Toronto, Ont ; sometimes abundant; Mr. Kay took one specimen at Port Sydney, Muskoka district in the summer of 1890. (*J. H. Fleming*). I have found this bird fairly plentiful in suitable places around Toronto; and have met with it as early as April 12th. Took two on April 22nd, 1899. They usually haunt waste ground in which occasional clusters of bushes are found. I know of one spot of waste ground interspersed with small patches of witch hazel and scrub oak, which is never without a few representatives of this pretty little sparrow. Breeds here. Can easily be identified at a considerable distance by its cinnamon-tipped beak. (*J. Hughes-Samuel.*) Locally distributed, but generally common near London, Ont. Easily found by its song, but not conspicuous otherwise. It nests both on the ground and in small shrubs one to four feet from the ground. In my trips to the Bruce peninsula have seen but few of these birds; while at Kazabazua, 40 miles north of Ottawa, it has been fairly common at every visit. Arrives at London about April 20th and departs about October 2nd. There is probably a considerable area of the central part of western Ontario from which this bird is absent. (*W. E. Saunders.*)

Very rare summer resident, Red river settlement; breeding. (*D. Gunn.*) Winnipeg ; summer resident ; tolerably common. (*Hine.*) Have seen it west of Winnipeg. (*R. H. Hunter.*) Qu'-Appelle; common summer resident; breeds; arrives about April 15th. (*Guernsey.*) All the above references are taken from E. T. Seton's "Birds of Manitoba" and it may be noted that none are his own observations. My opinion from many years' observation and correlation of other statements is that nearly all, if not all the above references are erroneous, and that they apply to the clay-coloured sparrow (*Spizella pallida*) which we know is abundant, at least in western Manitoba. The latter, though abundant, was not

recorded by Guernsey, R. H. Hunter, nor Mr. Hine, so that in these three cases I am quite sure that the identification is wrong. I doubt very much the occurrence of this bird at Winnipeg. Mr. Atkinson is of the opinion that the Manitoba records refer to the tree sparrow. (*Macoun.*)

Breeding Notes.—I have found the nest several times by the roadside in a small bush. It appears to be a late breeder as the nests I found had fresh eggs in them in July. If closely observed this bird is unmistakable, being easily recognized by its waxen-coloured bill. Not common in Eastern Ontario. I have, however, found it breeding in the township of Lansdowne, Ont., on three occasions. I also found a nest on the ground in a pasture near second growth woods in the township of Oso, N. Frontenac, in June, 1904. It also breeds in the vicinity of Kingston Mills, Ont., in dry pastures. (*Rev. C. J. Young.*)

CCXXVIII. **JUNCO** Wagler. 1831.

567. Slate-coloured Junco.

Junco hyemalis (Linn.) Scl. 1857.

Not observed in the Ungava district of Labrador; but common in the eastern and southern portions. Breeds at Davis inlet and Rigolet. (*Packard.*) Observed one individual on Moose river, June 7th, 1896; one on James bay, June 18th; found a pair breeding at Fort George; only seen twice in crossing Ungava from Richmond gulf to Fort Chimo. (*Spreadborough.*) Locally common as far as the tree line in northeastern Labrador, particularly at Aillik. (*Bigelow.*) Two specimens taken at Northwest river, Labrador, July 28th, 1891. (*Norton.*) A summer migrant and tolerably common in Newfoundland. (*Reeks.*) A few individuals seen along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*) A few specimens were seen on Sable island, N.S., in April and one in June, but on October 4th and 23rd, 1902, they were quite numerous; one seen May 16, 1904; several, April 30, 1905, and in the autumn, Oct. 7 and Nov. 12; they were seen in large flocks after a heavy gale on Nov. 5, 1906; several were seen April 1, 1907, and one on June 17, 1907. (*J. Boutelier.*)

Very common throughout Nova Scotia; breeds everywhere (*Downs.*) Seen several times during the winter at Parrsboro, Cumberland co., N.S.; migrants arrived at Shulee on March 18th, and in a few days were abundant. (*Morrell.*) Quite common on Cape Breton island, N.S., July and August, 1898, nests taken on Smoky mountain, August 1st, and at Margaree, July 16th; common along Rustico bay, Prince Edward island, June 29th, 1888. (*Macoun.*) Very abundant at Sydney, Cape Breton island. (*C. R. Harte.*) Very common from April to November in Nova Scotia. Often observed throughout the winter. (*H. F. Tufts.*) Next to the Savanna sparrow this is probably the most abundant bird on Prince Edward island. It is found everywhere—in door-yards, in open fields, fern-clothed clearings, even deep woods. Its nest is on the ground, preferably under something—the bottom rail of a fence or a hole in some grassy bank. Young were just beginning to fly June 23rd, and a week later, nests with fresh eggs indicated a second laying. (*Dwight.*) Very common summer resident in New Brunswick. (*Chamberlain.*) An abundant summer resident at Scotch Lake, York co., N.B. (*W. H. Moore.*) Very common in the Restigouche valley, N.B. (*Brittain & Cox.*) Breeds, but is irregularly distributed on the Magdalen islands. (*Bishop.*) Of general and uniform distribution on the shores and islands of the Gulf of St. Lawrence. (*Brewster.*) Abundant in summer at Lake Mistassini, northern Quebec. (*J. M. Macoun.*) Taken at Beauport; common summer resident in eastern Quebec. (*Dionne.*) An abundant summer resident at Montreal ; breeds in Mount Royal park. I have found their nests, with eggs, from May 17th to June 19th, and have observed them here from March 29th to October 25th; and on one occasion I saw two here, Dec. 24th, 1882. (*Wintle.*)

A common summer and autumn migrant. A few remain to breed around Ottawa. (*Ottawa Naturalist*, Vol. V.) I notice that this bird is a common spring and autumn migrant in eastern Ontario. Numbers of them arrive in the latter part of September, and are met with commonly in clearings and stubble fields during October. In the spring they re-appear early in April and continue through the month. A few breed in the county of Renfrew, and I have met with the nest in June. I have not noticed that it breeds along the St. Lawrence, though I have watched for it in suitable localities. It breeds sparingly on the Magdalen islands, as well as at Pictou,

Nova Scotia, and I found it breeding not uncommonly in North Hastings, Ont., in 1906. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont., breeds rarely. A common breeding summer resident in the Parry Sound and Muskoka districts; very fond of nesting near old bush roads. (*J. H. Fleming.*) A few remain around Toronto every winter. (*J. Hughes-Samuel.*) Abundant everywhere along the Parry Sound railway within the Algonquin park, Ont.; young ones were able to fly by June 19th, 1900; nests were found on the ground near logs and another beneath a tuft of grass on July 15th, 1900. Observed a few on both sides of James bay in 1904. (*Spreadborough.*) London seems to be nearly the southern limit of this species; here it is rare in summer, but at Bryanston, fifteen miles northeast, it is fairly common in the same class of woods; and in north Bruce it is quite common. There have been two or three seasons in the last twenty years when it has been noted regularly throughout the summer, but, as a rule, it is only found in large cedar swamps, and even then in small numbers. Although nesting usually on the ground, one nest was found here ten feet above the ground in a thicket of vines against a brick wall and contained five eggs, an unusually large set. Nests on the ground are almost invariably made on sloping ground, and the nest placed well back in an excavation. (*W. E. Saunders.*) Abundant during migrations at Guelph, Ont., especially in spring; common in winter and scarce in summer. (*A. B. Klugh.*) A common and breeding summer resident at Penetanguishene, Ont. (*A. F. Young.*)

A specimen was taken June 20th at Norway House, where the species was common; another was secured July 3rd, one of a number seen in the spruce and tamarack woods about Oxford House, and the species was again observed while we were ascending Steel river, September 1st. (*Preble.*) Fort Churchill, Hudson bay. (*Clarke.*) The snowbird appeared along the Mouse (Souris) river about the middle of September in troops as usual and at once became abundant. These specimens were pure *hyemalis*. (*Coues.*) An abundant migrant in Manitoba, frequenting thickets and hillsides. A few may breed in the northern part of the province; generally diffused at least as far as the east end of Great Slave lake. (*E. T. Seton.*) Abundant migrant in Manitoba and west, but not noted breeding. (*Atkinson.*) This species was first seen April 4th, 1892, at Indian Head, Sask., and disappeared by the 15th May; none seemed to

breed here; first seen at Medicine Hat, Sask., on April 10th, 1894, and later in the month a few more; a common species at Edmonton and south in the foothills to Crow Nest pass ; abundant from mouth of Lesser Slave river to Peace River Landing, lat. 56°, 15′, June, 1903; common from Edmonton to Yellowhead pass, Rocky mountains, June, 1898. (*Spreadborough.*) Abundant at Grand rapids of the Saskatchewan, where it was breeding; nests in thick bushes along the river bank opposite the fort. (*Nutting.*) Very abundant migrant at Prince Albert, Sask., in spring and fall; saw a small flock at Prince Albert, July 23, 1903, so I presume they breed. (*Coubeaux.*) First noticed, May 9th, 1888, at Red Deer river, north of Calgary; common from that point to Edmonton and Athabaska Landing and up to Little Slave river; rare down the Athabaska river to Fort McMurray; not seen at all on the Clearwater river until Methye portage was reached; very common on the portage and from there to Isle à la Crosse. (*J. M. Macoun.*) Rare straggler at Chilliwack; have taken it twice. (*Brooks.*) This bird is merely a summer resident of the Northwest Territories, and is not common nor was it seen by us beyond lat. 57°. (*Richardson.*) North to Fort Good Hope on the Mackenzie river. (*Ross.*) This species breeds in the forest and to the border of the "barrens," where several birds, nests and eggs were secured; the nests were always on the ground and made with fine hay lined with deer hair. (*Macfarlane.*)

This is one of the rarest sparrows visiting Behring sea; it is, however, much more numerous in the interior and is found along the entire course of the Yukon, at the mouth of which it breeds; it extends its summer range along the Norton sound shore of Behring sea and the coast of the Arctic about Kotzebue sound, yet there is no record of it having been taken on the coast of southeastern Alaska, nor does it occur on any of the islands of Behring sea. (*Nelson.*) This species is rarely common at St. Michael; it is seen only in May and November. (*Turner.*) This is a straggler at Point Barrow, only one specimen being taken on May 24th, 1883, which was a male. (*Murdoch.*) At the time of our arrival at our winter camp on the Kowak, and up to the 9th September, juncos were seen nearly every day, though not more than five at a time; they were always met with in the deep spruce woods; the last were seen on the 12th September; in the following spring they were noted on the 23rd May; they were never numerous, two pairs being the most that were seen

in half a day's hunt; this species was not noted further down the Kowak than near the mouth of the Squirrel river, where a pair was seen on June 8th. (*Grinnell.*) Common at Hope, on Cook inlet, Alaska, in August, 1900. (*Osgood.*) Five specimens were taken on the Kenai mountains and at Homer, Alaska, in August and September, 1901; the breeding ground of this junco was in extensive alder patches just above timber line; they were quite common and were found in all such localities visited. (*Figgins.*) From Log Cabin on the White pass, to Circle City in Alaska, this bird occurs everywhere. The slate-coloured sparrow, Gambel's sparrow and the western chipping sparrow were most common about heaps of brush left by lumbermen, weed-grown clearings resulting from forest fires and cabins of the towns. Every nest was sunk in the ground to the rim in an open place under a weed or tussock of grass. One contained a few dark hairs, besides the usual fine grass lining. (*Bishop.*)

Breeding Notes.—The nesting season of this species in New Brunswick is May and June. From three to five eggs are laid in a well-concealed nest placed on the ground, under the protection of a rock, sod, root or log. The nest is composed of grass stems lined with hair. One nest was found made entirely of hair taken from a piece of cariboo skin. (*W. H. Moore.*) One nest found on Chelsea mountain, nine miles from Ottawa, on May 12th, 1903, and another taken on Montreal mountain on June 3rd, 1903, were in holes in the ground; each nest was made of grass and hair and each contained four eggs, and measured 4 x 2 and 2.50 x 1.50 inches. (*Garneau.*) Not a common summer resident at Ottawa. Nest in a low bush or on the ground, composed of strips of bark, rootlets and hairs, lined with moss and hair; eggs 4 or 5, greenish-white, spotted and blotched with reddish-brown. (*G. R. White.*) Found a nest, June 3, 1903, at Missinabi, Ont.; it was under a clump of grass and made of grass lined with fine dried grass. (*Spreadborough.*)

567*a*. Oregon Junco.

Junco oreganus (Towns.) Ridgw. 1901.

An abundant resident west of the Coast range. (*Fannin.*) Abundant resident at Chilliwack, B.C. (*Brooks.*) Very abundant in the Fraser valley below Yale in May, 1889; common during the whole

summer at Chilliwack and at Huntingdon, B.C. on the International Boundary; a few seen at Douglas, B.C., in April, 1906. An abundant summer resident at Victoria, Vancouver island; nesting by April 9th, 1893. Doubtless common over the whole island, as it was seen at Sooke, Comox and Nanaimo, although in 1907, only a few were seen at Clayoquot sound in September. (*Spreadborough.*) The occurrence of this bird in Alaska was first made known by the capture of eight specimens at Sitka by Bischoff; it was afterwards taken by Bean at Sitka. (*Nelson.*) A single specimen of this bird was obtained at Unalaska island, April 8th, 1879, where it was shot by a native. (*Turner.*) Numerous in open bushy places at Sitka, Alaska. This junco was one of the commonest land birds there. (*Grinnell.*) Not common on Queen Charlotte islands. It was very seldom seen near the coast and but few were noticed on the mountains. (*Osgood.*) Tolerably common at Skagway and more so at Haines Mission. At Skagway, I took a female and four fresh eggs, May 31st. The nest of dried grass, lined with short, white hairs, was sunk in the ground and concealed by dead weeds under a birch only about 30 feet above the waters of Lynn canal. (*Bishop.*)

Mr. Rhoads, after discussing the differences between this form and the next, says:—"I think it safe to say that birds indistinguishable from *oregonus* breed on the better watered mountains of the interior of British Columbia. The only approach to *shufeldti* is found in birds from the most arid lowlands and most eastern Rockies, but their differences are too slight and fortuitous to warrant a distinction."

567*b*. **Shufeldt Junco.**

Junco oreganus shufeldti (COALE) RIDGW. 1901.

In company with two *hyemalis* at Edmonton, Alta., in May, 1897, and in the Rocky mountains south of Yellowhead pass, in July, 1898; apparently accidental in the Rocky mountains, one taken at Canmore, near Banff, in May, 1891; very common and breeding in the Columbia river valley from Revelstoke to the International boundary, where a large series of birds was taken in 1890 and 1902. Common from the Columbia to Vancouver island. West of the Coast range, it becomes mixed with the Oregon junco; very abundant at Penticton, south of Okanagan, B.C., in April, 1903; abundant

everywhere at Fernie and Elko, B.C., in 1904, and common everywhere at Midway, in 1905; common in the same year on mountains between the Skagit river and Chilliwack lake. (*Spreadborough.*) The junco breeding in the plateau region between the Coast range and the Rockies and migrating south in winter, is evidently separable from the coast form. Specimens referred here were collected at Ashcroft, in June and July, 1889; taken also by Mr. Macfarlane at Stewart lake with its nests and five eggs. (*Streator.*) Abundant at Lake Okanagan, B.C., in winter. (*Brooks.*) A female was taken at Glacier in the White pass, June 7th, 1899, and another at White Pass City, June 9th; others were taken and heard next day, both at Glacier and White Pass City. (*Bishop.*)

Breeding Notes.—On May 31st, 1902, found two nests near Trail, B.C.; one with four eggs, the other with two; incubation was far advanced. Nests constructed of weeds and grass, lined with hair. Both nests were in a bank overhung with grass; another was found on May 25th in the bank of an old prospect hole with four fresh eggs. Found a nest in a clump of bunch grass at Midway, B.C., May 3, 1905; it was made of grass and lined with fine hair; June 22, saw a nest with four eggs in a bank, under a small bush at the head of Whipsaw creek at an altitude of 6,800 feet. (*Spreadborough.*)

568. **Mearns Junco.**

Junco mearnsi Ridgway. 1897.

This form accompanies *hyemalis* in the migration at Carberry, Manitoba. (*E. T. Seton.*) Mr. E. T. Seton refers this bird to *shufeldti*, but having taken *mearnsi* at Medicine Hat in 1894, and found them breeding in June on the east end of the Cypress hills, about 100 miles southeast of that point, we place his reference under that species. (*Macoun.*) I secured a female and two young in the Cypress hills, Sask., and a male and one young several miles away on the following day; no others noted. (*Bishop.*) Quite common at Banff, Rocky mountains, in the summer of 1891; nests were taken on Tunnel mountain. They were always placed on the ground beneath a bush or on a slope. Breeds twice in a season at Banff. (*Spreadborough.*)

BREEDING NOTES.—I have the nest and eggs of this bird that were collected on Tunnel mountain, at Banff, June 25th, 1893. Nest on the ground amongst loose stones, composed of dried grass stems lined with hair. (*W. Raine.*)

CCXXIX. **MELOSPIZA** BAIRD. 1858.

581. Song Sparrow.

Melospiza cinerea melodia (WILSON) RIDGW. 1901.

Very common in Nova Scotia; a few remain all winter. (*Downs.*) A common species at Sydney, Cape Breton island, arriving in March. (*C. R. Harte.*) Abundant in Nova Scotia from April to December; sometimes noted in winter. (*H. F. Tufts.*) One seen at Partridge island pier, near Parrsboro, Cumberland county, N.S., February 12th and following days. Migrants reached Shulee, March 22nd, becoming common at once. (*Morrell.*) Quite common at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; breeding in large numbers at Brackley point and other places on Prince Edward island, July, 1888. (*Macoun.*) Very abundant and generally distributed on Prince Edward island. Mr. Bain states that some winter on the island. (*Dwight.*) A common resident in New Brunswick. (*Chamberlain.*) An abundant summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Common in the Restigouche valley, N.B. (*Brittain & Cox.*) Common at Lake Mistassini, northern Quebec. (*J. M. Macoun.*) A rather common summer resident on the Magdalen islands. (*Bishop.*) Abundant along the shores of the Gut of Canso and a few at Gaspé, Que. (*Brewster.*) Common summer resident in Quebec. (*Dionne.*) An abundant summer resident in the district of Montreal. Breeds in the city and in Mount Royal park. I have found their nests with eggs from May 8th to July 28th, and observed them from March 24th to October 24th. (*Wintle.*)

An abundant summer resident around Ottawa, breeding on banks and under bushes. (*Ottawa Naturalist*, Vol. V.) Common everywhere in Ontario, occasionally commencing to breed in the latter part of April, and continuing to do so through the spring and summer as late as the middle of July. This year (1901) they came on the 25th March, and were then in full song. I have found

the nest on the ground, often in a bush, and occasionally four feet up. (*Rev. C. J. Young.*) Breeds abundantly in the Parry Sound and Muskoka districts of Ontario. (*J. H. Fleming.*) Abundant everywhere along the streams and shores of lakes in Algonquin park, Ont.; common from Missinabi to Point Comfort on the east coast of James bay, and about 200 miles up the west coast from Moose Factory. (*Spreadborough.*) This general favourite may frequently be heard breaking into full song at midnight during the lovely nights in May, often being answered by birds roosting in nearby trees or bushes. On two different occasions I have found a nest of this species built in an old tomato tin. (*J. Hughes-Samuel.*) Everywhere abundant in southwestern Ontario. Occasionally one remains through the winter. (*W. E. Saunders.*) This is an abundant summer resident and one which seeks the society of man, being found wherever human habitations have been raised within its range. (*McIlwraith.*) Abundant summer resident at Guelph, Ont. Arrives about March 12th and leaves about November 1st. (*A. B. Klugh*). A common and breeding summer resident at Penetanguishene, Ont. (*A. F. Young.*) Common in the willow thickets along the Moose river to James bay at Moose Factory; none observed farther north. (*Spreadborough.*)

Common at Norway House, and in the shrubberry about the clearing at Oxford House, and a number observed about Knee lake, July 5th. Not noted between Knee lake and York Factory on our downward trip, though we found the species rather common on Hill river as we ascended it early in September. (*E. A. Preble.*) One taken at Norway House, foot of Lake Winnipeg. (*Dr. R. Bell.*) Only one specimen of this species taken by me on the 49th parallel. This was on Turtle mountain. (*Coues.*) A common summer resident in Manitoba, chiefly along the water courses and northward, but always preferring the neighbourhood of water. (*E. T. Seton.*) Common at Aweme, Man. (*Criddle.*) Noted everywhere in 1906 between Portage la Prairie, Man., and Edmonton, Alta., along the line of the G. T. P. Ry. (*Atkinson.*) First noticed near Prince Albert on the Saskatchewan in company with other species in the spring migrations of 1899. Probably not uncommon but an irregular visitant. (*Coubeaux.*) The most abundant sparrow both at Grand rapids and Chemawawin, Saskatchewan river, where the shrubbery was thick. (*Nutting.*) Quite common

on Clearwater river, lat. 56° 30′; very common on Methye lake to the exclusion of other birds; common in places south to Isle à la Crosse. (*J. M. Macoun.*) First individual seen at Indian Head, Sask., April 30th, 1892; they were common by the 20th, and bred in considerable numbers; one male was seen at Medicine Hat, Sask., April 30th, 1894; quite common in scrub along the river and creeks by May 5th; a few found breeding at Crane lake, but especially along Skull creek; in the Cypress hills, at the last of June; they were quite common along the willow thickets bordering the small creeks forming Swift Current creek. This species is always by water, and wherever there is water and brush. We found it from Old Wives creek to Wood mountain and west to Frenchman river, and by all the creeks issuing from the Cypress hills. Many nests were found on the ground, generally beneath willows. A few individuals were seen in the Milk River valley at Castellated rocks, Alta., also on the west Butte, on the 49th parallel, and at Lee creek farther west; very rare at Banff in the Rocky mountains, breeding in the bushes in the marsh below "the Cave and Basin" in June, 1891; first observed one, April 20th, at Edmonton, Alta.; found a nest May 26th and another May 27th with five eggs; nests, on the ground, composed of dry grass, lined with a little horse hair; common south in the foothills to Crow Nest pass; common from mouth of Lesser Slave river to Peace River Landing lat. 56° 15′ in June, 1903; common from Edmonton to the crossing of McLeod river, north of Edmonton in June, 1898. (*Spreadborough.*)

Breeding Notes.—A common breeding bird around Ottawa. Nest in a low bush, or tuft of grass, or on the ground, built of grass, rootlets and vegetable matter, lined with grass and hair. Eggs four, greenish or grayish white spotted with brown, chocolate and lavender. (*G. R. White.*) Breeding in May, June and July, and occasionally in August in New Brunswick. I would not be surprised if some specialist were to divide our song sparrows into two races. There is certainly a difference in the songs of those in different localities, a great difference in their eggs and the location of the nest. (*W. H. Moore.*) Some of the nests are on the ground or sunken in the ground, also in the midst of heaps of dead branches or covered by tufts of tall grass in the fields or by reeds in the marshes. Others are built in bushes or in small trees to a height of ten feet, and many on the lower branches of large conifers.

A few are found in holes of trees or in logs in fences. The materials used are grasses, bark and leaves with finer grass or hairs as lining. Eggs may be found from April to August at Ottawa. (*Garneau.*)

581*b*. Mountain Song Sparrow.

Melospiza cinerea montana (HENSHAW) RIDGW. 1901.

Not uncommon near the International boundary between Trail and Cascade, B.C., in June, 1902; they seemed to be breeding on the mountains; saw one at Fernie, B.C., April 22, 1904, and several at Elko, May 9; found a nest with four eggs quite fresh in a clump of brush on the side of a spruce tree about four feet from the ground. Nest made of grass, lined with fine grass mixed with horse hair; observed at Midway, Meyer creek and Sidley, B.C., in 1905, and breeding at Osoyoos lake and Similkameen river. (*Spreadborough.*)

581*e*. Rusty Song Sparrow.

Melospiza cinerea morphna (OBERH.) RIDGW. 1901.

Regular summer visitor. (*Lord.*) Common in British Columbia west of Coast range; specimens taken at Ashcroft in the interior are of this form. (*Streator.*) An abundant resident confined chiefly to the coast and Vancouver island. (*Fannin.*) An abundant resident at Chilliwack. Tolerably common winter resident at Lake Okanagan, B.C. (*Brooks.*) The distribution of *guttata* in Washington and British Columbia is singularly uniform in all kinds of localities, no difference between coast and interior individuals being apparent. (*Rhoads.*) Breeding from extreme southern portion of Alaska through British Columbia, including Vancouver island, to Oregon. (*Ridgway.*) Saw what I took to be this form in the valley of McLennan river, west of the Rocky mountains and south of Yellowhead pass, in B.C., July, 1898; not uncommon at Revelstoke, B.C., in April, 1890. Further west, it was found common at Sicamous and Kamloops, in 1889; not common at Penticton, B.C., a few pairs breeding; it was very abundant, however, west of the Coast range at all points visited and was particularly abundant on Vancouver island. Except at Revelstoke, it was found breeding throughout its range; like the eastern song sparrow it likes to breed near water. (*Spreadborough.*)

581*f*. Sooty Song Sparrow.

Melospiza cinerea rufina (BONAP.) RIDGW. 1901.

An abundant resident chiefly along the coast of the mainland, B.C. (*Fannin.*) An abundant resident in the Fraser valley, near the International boundary, in the summer of 1901, in 1905 and 1906; rather common along the seashore at Hastings, Burrard inlet, in May, 1889, and seen at Comox, Vancouver island, June, 1893, and Clayoquot sound in 1907. Found a nest along the Chilliwack river, May 7, 1906; it was in a clump of dead ferns and made of weeds lined with fine grass. (*Spreadborough.*) No specimens of this form were collected in the breeding season along the coast of British Columbia by me. (*Rhoads.*) Common at New Westminster and at English bay and Stanley park, near Vancouver, B.C., 1894. (*E. F. G. White.*)

Tolerably common in the bushy or grassy margins of the forests along the beaches at Sitka, Alaska. (*Grinnell.*) Very abundant on Queen Charlotte islands. A few nests were taken, one was situated in a bunch of weeds near the water's edge and contained two fresh eggs, all nests taken were in the same situation. (*Osgood.*) We heard several singing at Skagway, May 31st, 1899, and others were seen at Haines mission, June 1st and 2nd. (*Bishop.*) In the wooded coast region of southeastern Alaska, including Sitka, and thence northwest to Lituya bay and Kadiak, this bird is abundant, but beyond this limited region it is unknown at present. (*Nelson.*)

581*j*. Dakota Song Sparrow.

Melospiza cinerea juddi (BISHOP) A. O. U. COMM. 1901.

This sub-species is found throughout southern Saskatchewan. At Yorkton, Sask., June 1st, 1901, I found a nest of this bird containing four eggs, built on the ground amongst short grass. (*W. Raine.*) Uncommon in the underbrush along Skull creek, Maple creek and in the Cypress hills, Sask. (*A. C. Bent.*) Our specimens taken on many parts of the prairie are all placed with the eastern form by Mr. Oberholser. (*Macoun.*)

581*n*. Yakutat Song Sparrow.

Melospiza cinerea caurina (RIDGWAY) RIDGW. 1901.

Coast of middle Alaska, from Cook inlet to Cross sound; in winter to southern Alaska, taken at Howcan, Prince of Wales island. (*Ridgway* in *The Auk*, Vol. XVI, 1899, p. 36.) Coast of the St. Elias district, Alaska, from Yakutat bay to Lituya bay. (*Ridgway.*)

581*o*. Kenai Song Sparrow.

Melospiza cinerea kenaiensis (RIDGW.) RIDGWAY. 1901.

Coast of Kenai peninsula, Alaska, from east side of Cook inlet to Prince William sound. Type from Port Graham, Cook inlet, taken April 9th, 1892, by C. H. Townsend. (*Ridgway* in *The Auk*, Vol. XVII, p. 29, 1900.) Two specimens taken at Homer, October 12th, 1901, were the only ones seen by Figgins near the Kenai mountains, Alaska; Anderson in 1903 took seven adults and four juvenals at Seldovia. (*Chapman.*)

581.1. Kadiak Song Sparrow.

Melospiza cinerea insignis (BAIRD) RIDGW. 1901.

Island of Kadiak, Alaska, and opposite coast of Aliaska peninsula. (*Ridgway.*)

582. Aleutian Song Sparrow.

Melospiza cinerea (GMEL.) FINSCH. 1872.

Among the several insular forms occurring in the Aleutian islands and rarely extending their range to the adjacent mainland of southeastern Alaska this large hardy bird, a veritable giant among its congeners, is the most peculiar. It is a resident throughout the Aleutian islands and is limited to the rocky shores and low flats with its bordering beaches, never going far inland, nor does it reach any considerable altitude. Strangely enough it does not pass to the northward even as far as the Pribilof islands. To the eastward, however, it is abundant on the Shumagin islands and Kadiak. (*Nelson.*) This species is a constant resident of the Aleutian islands, the peninsula of Aliaska and the adjacent islands lying on the south

as far eastward as Cook inlet. (*Turner.*) Abundant at Unalaska, October 5th to 7th, 1899, frequenting the roofs of buildings, lumber piles, wharfs, beaches and weeds of the level country. (*Bishop.*) Ten specimens were taken at Sand point, Popof island, October 20th, 1901 by Figgins. This sparrow is fairly common on Popof island, where it is resident. (*Chapman.*)

583. Lincoln Sparrow.

Melospiza lincolnii (AUD.) BAIRD. 1858.

Rare at Fort Chimo, Labrador; a male obtained June 10th, 1883; common in southern portions. Drexler found it at Moose Factory, May 23rd, 1860. (*Packard.*) Common along the north-eastern coast of Labrador. A characteristic bird of the wooded parts of the coast as far north as Hamilton inlet. (*Bigelow.*) Not an uncommon inland summer resident in Nova Scotia. (*Downs.*) A pair was found breeding at Brackley point, Prince Edward island, June 26th, 1888. (*Macoun.*) Breeding in some abundance on both shores of the Gut of Canso, N.S. (*Brewster.*) A rare summer resident at Scotch Lake, York county, N.B.; taken in 1899 at Fredericton where it undoubtedly breeds. (*W. H. Moore.*) Taken at Beauport, near Quebec; an uncommon migrant. (*Dionne.*)

A casual at Ottawa; a male of this species was shot, 16th May, 1884, near the east end of the city by Mr. G. R. White. (*Ottawa Naturalist*, Vol. V.) Have occasionally met with this bird in the county of Leeds, Ont., also once near Sharbot lake, Ont. It arrives early, before the song sparrow, and commences nesting, the end of April. I have found the nest several times, always on the ground in rough places. The last nest was under a small spruce, built in moss. The eggs are slightly smaller than the song sparrow's, and the nest is lined with fine grass. A few breed on the Magdalen islands where the song sparrow seems to be very rare. (*Rev. C. J. Young.*) Apparently rare in the Algonquin park, Ont.; shot one at Câche lake, July 10th, 1900; doubtless a few breed. A few observed along the east coast of James bay in 1904. (*Spreadborough.*) Reaching us about the middle of May, these birds are so secretive in their habits that it is very difficult to make an accurate calculation of their numbers but a careful observer will usually see a few specimens each season. They visit us here in Toronto on the

southern trip about the middle of September. (*J. Hughes-Samuel.*) Regular spring migrant at Toronto, Ont. (*J. H. Fleming.*) Regular but rare migrant at London, Ont.; recorded sometimes as fairly common in a few localities. (*W. E. Saunders.*)

Observed in large numbers during the latter part of September and beginning of October along the Mouse (Souris) river. (*Coues.*) A rare spring and winter migrant at Carberry, Man. Nesting in the vicinity of Fort Resolution, Mackenzie. (*E. T. Seton.*) Rare at Aweme, Man., probably breeds. (*Criddle.*) A rare and tolerably common summer resident in Manitoba but not noted breeding. (*Atkinson.*) Rather common, July 13th to 16th, at York Factory, where three specimens were collected. (*E. A. Preble.*) Only noted as a spring migrant at Indian Head, Sask.; they were first seen May 13th, 1892, and left again in a few days ; only a few were observed at Old Wives creek in 1895, but none were seen on the prairie at any place; they were not rare and breeding in the bushes at Banff in 1891; first observed at Edmonton, Alta. on May 5th, 1897, on June 1st found a nest on the ground in a bunch of grass, nest made of dried grass, eggs five, quite fresh; common in the foothills from Calgary southward to Crow Nest pass; found a nest with four fresh eggs, June 28th, nest same as first; abundant from Edmonton to Lesser Slave lake and Peace River Landing, lat. 56° 15,′ 1903; seen everywhere between Edmonton and Yellowhead pass in low bushes in June, 1898; quite common at Revelstoke, B.C., in May, 1890, and on the Columbia south to Robson, where they were seen again in 1902, they were breeding in low thickets; common at Penticton, south of Lake Okanagan, B.C., on April 28th, 1903. (*Spreadborough.*) North to Fort Simpson, on Mackenzie river; not rare. (*Ross.*) Common during the autumnal migrations. (*Streator.*) Regular summer visitor. (*Lord.*) Found east and west of Coast range. (*Fannin.*)

At Nulato this bird is rare, but thence it becomes more and more numerous towards the east and at Fort Yukon it is considerably more abundant. (*Nelson.*) Mr. Rhoads in *The Auk*, Vol. X, p. 21, says that he cannot see any difference between specimens of this species taken on Vancouver island and those taken in Pennsylvania, and on this account he rejects *striata*, which is based on Vancouver island specimens. (*Macoun.*) Two or three pairs breed in the grassy margin of the pond back of Sitka, Alaska.

A juvenile about one-third grown was taken on June 25th. Mr. Brewster says of a female that was taken June 25th that it agrees with *striata* in respect to the streaking in the upper parts, but it would be unsafe to make it that form without material. (*Grinnell.*) An adult male was taken at Hope, Cook inlet, Alaska, and a few others were seen when we were there. The specimen taken shows none of the characters attributed to *Melospiza lincolnii striata*. (*Osgood.*) Seen at Log Cabin, June 15th, 1899; a female and a nest of fresh eggs were taken near Lake Marsh, July 5th. The nest was composed of coarse grass lined with fine grass and was in a tuft of grass in a swamp, about four inches above the water. The species was occasionally met with to Circle City on the Yukon. (*Bishop.*)

583*a*. **Forbush Sparrow.**

Melospiza lincolnii striata BREWST. 1889.

One seen near Victoria, Vancouver island, April 24th, 1893, and another on May 5th; after which time they were more common; observed a number in a marsh on Depot creek, Chilliwack lake, B.C., July 24th, 1901; took one in a peat bog at Huntingdon on the International Boundary on September 24th. (*Spreadborough.*) Mount Lehman, lower Fraser valley; also Vancouver island. (*Streator.*) Collected at Comox, Vancouver island, in September, 1888, by E. H. Forbush. (*Fannin.*) Tolerably common migrant at Chilliwack; tolerably common breeder in the Cariboo district, B.C.; one set of five eggs taken at 150-Mile House, July 3rd, 1901. (*Brooks.*) Sitka, Alaska. (*Grinnell.*) Wrangel, Alaska. (*Anderson.*)

All our museum specimens are placed with *M. lincolnii*, as we cannot separate them from that species. (*Macoun.*)

584. **Swamp Sparrow.**

Melospiza georgiana (LATH.) RIDGW. 1885.

Audubon, Vol. III, p. 111, states it to be abundant in Labrador. (*Packard.*) Not uncommon along the Humber river, Newfoundland, 1889. (*Louis H. Porter.*) A common summer resident in Nova Scotia. (*Downs.*) Nest found at Sydney, Cape Breton

island, May 25th, 1901; arrives in April. (*C. R. Harte.*) Common in Nova Scotia from May to September. (*H. F. Tufts.*) Breeding in some numbers around the swamps at Brackley point and Rustico, Prince Edward island, June, 1888. (*Macoun.*) Rather common in very wet, bushy meadows, with alders here and there, or in open swamps of limited area, such as occur along brooks in a cleared country such as Prince Edward island. Not uncommon at Baddeck, Cape Breton island. (*Dwight.*) An uncommon summer resident at St. John, N.B. (*Chamberlain.*) A common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Not uncommon on Magdalen islands. (*Bishop.*) Rare in the Restigouche valley, N.B. (*Brittain & Cox.*) An abundant species on Anticosti island and breeding there. (*Brewster.*) Taken at Beauport; a summer resident in eastern Quebec. (*Dionne.*) A common summer resident around Montreal. It is common in the marshes, but on account of its retiring habits is not noticed unless sought after by the collector of birds. (*Wintle.*)

A moderately common summer resident at Ottawa. (*Ottawa Naturalist,* Vol. V.) A common summer resident in the marshes of eastern Ontario. It makes its nest in the sedge in wet places. The eggs are readily distinguished from those of the song sparrow, being spotted and speckled with umber instead of brick-red. (*Rev. C. J. Young.*) One taken at Beaumaris on May 14th, 1898, by Mr. Taverner is the only record I have for the Parry Sound and Muskoka districts; regular summer resident at Toronto, Ont.; breeds. (*J. H. Fleming.*) Abundant in the marshes of the Madawaska, below Câche lake, Algonquin park, Ont. in June, 1900; very abundant in swampy land from Missinabi, Ont. to Point Comfort and Cape Henrietta Maria, Hudson Bay. (*Spreadborough.*) Found abundantly in the marshes near Toronto. Have found many nests early in May. (*J. Hughes-Samuel.*) Abundant summer resident in bogs and marshes at Guelph, Ont. (*A. B. Klugh.*) A few were seen in the shrubby woods back of the post of Oxford House and an adult was taken July 3rd. At York Factory, where the species was rather common, two young, not long from the nest, were taken July 13th and 16th. (*E. A. Preble.*) This species was observed with other members of the family during the autumn migration from the middle of September until the middle of October at the Mouse (Souris) river, lat. 49°. In all, six specimens were

taken. (*Coues.*) Tolerably common and breeding at Aweme, Man. (*Criddle.*) An abundant breeding species in all marshes of Manitoba and west to Edmonton, Alta. (*Atkinson.*) A common summer resident in Manitoba; nesting in swamps that have some willows about them; very abundant about Carberry, breeding in every slough. (*E. T. Seton.*) North to Fort Resolution on Great Slave lake; rare. (*Ross.*) One specimen taken at Indian Head, Sask., in May, 1892; everywhere in marshes from the foot of Lesser Slave lake to Peace River Landing, lat. 56° 15,′ June, 1903. (*Spreadborough.*)

Breeding Notes.—Rather rare as a breeding bird at Ottawa. Nest on ground in a tussock of grass or in a low bush, composed of rootlets weeds and grass, lined with fine fibrous matter; eggs 4 to 6; greyish white, speckled with reddish brown. (*G. R. White.*) Nests found in the marshes around Ottawa in May and June; they are attached to the reeds, which often hide the nest; sometimes they are built in bushes or on the ground along the swamps; the materials used are grasses, those used as a lining are finer ; from three to five eggs are in the set. (*Garneau.*)

CCXXX. **PASSERELLA** Swainson. 1837.

585. **Fox Sparrow.**

Passerella iliaca (Merr.) Swains. 1837.

Common in the southern part of Labrador; young obtained at Rigolet late in June and early in July, 1882. (*Packard.*) Common from some distance up the Moose river to Richmond gulf; none observed when crossing Ungava; young able to fly July 1st, 1896. (*Spreadborough.*) Common along the southern coast of Labrador; we found it as far north as Aillik. (*Bigelow.*) A summer migrant on Newfoundland and very common. (*Reeks.*) Two young birds seen August 17th, 1899, along the Humber river, Newfoundland. (*Louis H. Porter.*) Common during the spring and autumn migrations in Nova Scotia. (*Downs.*) One individual seen on Sable island, N.S., April 20th, 1902, and a flock on October 4th; seen in numbers, 17 April, 1904; one, September 30th, 1905, one September 29th, 1906, and in 1907 several were seen April 14th and two, October 15th. (*J. Boutelier.*) Female shot at Sydney, Cape Breton

island, May 18th, 1902; ovaries small; may possibly breed. (*C. R. Harte.*) A flock of migrants was seen at Shulee, Cumberland county, N.S., March 29th; they were in song. (*Morrell.*) Not uncommon migrant in Nova Scotia. (*H. F. Tufts.*) Common in the spring migrations, rare in the autumn migrations at St. John, N.B. (*Chamberlain.*) A rare spring and autumn migrant at Scotch Lake, York county, N.B. (*W. H. Moore.*) Rather common; breeding on the Magdalen islands about the last of June. (*Bishop.*) We found this sparrow among the Magdalens, on Anticosti and everywhere on the north shore of the gulf, breeding abundantly. (*Brewster.*) Taken at Beauport; a migrant in eastern Quebec, but breeding on the Mingan islands. (*Dionne.*) A scarce and transient visitor in the vicinity of Montreal. (*Wintle.*)

A moderately common migrant at Ottawa. (*Ottawa Naturalist*, Vol. V.) I have shot this bird in the fall in the county of Leeds, Ont. I found it on two occasions frequenting second growth bush in old clearings. (*Rev. C. J. Young.*) Regarded as rare at Port Sydney, in 1888, by Mr. Kay; reported as common on September 7th, 1896, at Beaumaris by Mr. Taverner; both localities are in Muskoka. (*J. H. Fleming.*) Common along the Moose river and on both sides of James bay. (*Spreadborough.*) This species passes through Toronto so rapidly in its spring migration that it is quite easy to overlook it entirely, hence the idea, I think, that it is scarce. I have met with these birds in the middle of April when each bush contained several, many perched on the upper twigs singing the richest sparrow melody I know of. On visiting the locality the next morning at daybreak not a sign remained of our fleeting visitors ; in the fall, their visit is of much longer duration, but on disturbing a small party of these birds while scratching the dead leaves for their food they will fly up into the nearest evergreen tree and remain perfectly motionless till the intruder has passed from view. (*J. Hughes-Samuel.*) Usually rare but occasionally a common migrant in either spring or fall, and in rare seasons we may hear this fine songster in full song for perhaps a week; and yet until 1885 only two or three specimens had been noted near London, Ont., so that it appears to be increasing in abundance quite steadily. (*W. E. Saunders.*) Irregular migrant in spring at Guelph, Ont.; it is never common. (*A. B. Klugh.*) A rare and transient visitant at Penetanguishene, Ont. (*A. F. Young.*)

An abundant migrant in Manitoba. (*Atkinson.*) A not very common migrant in Manitoba; breeding at Duck mountain in the northern part of the province. Nests north to the edge of the woods, one noted at Last woods on Artillery lake, August 5th, 1907; also observed at Pike portage, east end of Great Slave lake. (*E. T. Seton.*) A not very common migrant in northern Saskatchewan. (*Coubeaux.*) First noticed on the afternoon of July 10th, when its beautiful song was heard in the willow thickets, bordering Hayes river, a few miles above York Factory. While at York Factory we found fox sparrows fairly common in willow thickets, and took a pair, July 16th. (*Preble.*) Found near Red Deer, Alta., in full song, June, 1906. (*W. E. Saunders.*) This handsome species breeds in the wooded districts of the Northwest Territories up to the sixty-eight parallel of latitude; it constructs its nest in a low bush, of dry grass, hair and feathers. (*Richardson.*) North to Lapierre House on the Mackenzie river; common. (*Ross.*) Saw one, April 19th, 1897, at Edmonton, Alta.; saw individuals up to June 1st, a few pairs doubtless breed here; observed two individuals near Edmonton, June 7th, 1898; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, June, 1903. (*Spreadborough.*) Not rare at Fort McMurray at the confluence of the Clearwater river and the Athabaska, lat. 56° 40′; one bird and nest seen on Methye Portage, eggs not hatched, July 18th, 1888. (*J. M. Macoun.*)

I did not discover the presence of the fox sparrow at Cape Blossom Kotzebue sound, until the evening of July 31st, 1898; fox sparrows were seen or heard all along the lower course of the Kowak, and at our winter camp they were quite common up to August 23rd, when they abruptly disappeared. (*Grinnell.*) A wave of sparrows occurred at Circle City, Alaska, August 19th, 1899, and one individual was indentified as being of this species. (*Bishop.*) Along the coast of Norton sound this bird is an abundant summer resident, sharing with the tree sparrows the bushy shelter of the alder thickets on the hillsides and sheltered ravines. (*Nelson.*) The fox sparrow arrives at St. Michael by the 8th June; breeds here in the thickets of alder around the edges of the small lakes. (*Turner.*)

Breeding Notes.—This bird is very common on the Magdalen islands where I found four nests in June, 1897; all except one con-

tained young by the 21st June; these nests were built in stunted spruce, one as much as five feet above the ground; they occasionally make their nest on the ground like the song sparrow, and I have seen a nest found in such a locality; a most interesting species, it perches on the topmost branches of a young spruce, and sings incessantly in its breeding habitat. (*Rev. C. J. Young.*)

Tolerably common on both banks of the Anderson, and two or three nests were also discovered in the vicinity of a small stream named Swan river, in the "barren grounds;" most of the nests were built on trees, and they resembled those of *Turdus aliciæ*, but a few found on the ground, however, were composed of coarse dry grass, lined with some of a finer quality, a few deer hairs, and a sprinkling of fresh moss; the complement of eggs varies from four to five. (*Macfarlane.*) I have several sets from the Mackenzie delta; on June 10th, 1900, a nest and three eggs were found by Mr. C. E. Whittaker at Peel river, the nest was built in the root of a shrub near the ground; on June 1st, 1898, another nest and 4 eggs were found at Peel river by the Rev. I. O. Stringer, through whose kindness I have been able to describe the nests and eggs of many Arctic birds found by this gentleman in the far north during his eight years sojourn amongst the Eskimos of that region, and it is to be regretted that owing to failing health Mr. Stringer had to abandon his work amongst the natives of the Arctic coast, as he has proved himself to be a keen observer and careful, painstaking ornithologist; many of the specimens collected by Mr. Stringer were taken while he was travelling up or down the Mackenzie delta or along Arctic coast with bands of Eskimos and often at night when the natives had lain down to sleep, Mr. Stringer had to skin the birds and blow the eggs and make his notes, and by the time this work was done the Eskimos were astir again and making ready to proceed on their journey. (*W. Raine.*)

585*a*. **Shumagin Fox Sparrow.**

Passerella iliaca unalaschensis (Gmelin) Ridgw. 1900.

Shumagin Islands and Aliaska peninsula, Alaska; Unalaska island. (*Ridgway.*) An adult female taken by Figgins at Homer, Kenai peninsula, June 5th, 1901, agrees with Shumagin island specimens. Collected by Stone in 1903 at Müller bay and Seldovia. (*Chapman.*)

585. 1. Kadiak Fox Sparrow.

Passerella iliaca insularis RIDGW. 1900.

Kadiak island, Alaska, in summer; south to California in winter. Type taken at Kadiak island, May 17th, 1868, by F. Bischoff. (*Ridgway* in *The Auk*, Vol. XVII, p. 30, 1900.)

585. 2. Yakutat Fox Sparrow.

Passerella iliaca annectens RIDGWAY. 1900.

Coast of Alaska, from Cross sound to Prince William sound; in winter south to California. (*Ridgway.*) Rather common at Cook inlet, Alaska, but very shy as usual, and hard to secure. Two specimens were taken at Hope and one at Tyonek but are not typical. (*Osgood.*) Three specimens taken by Figgins at Homer and on Kenai mountains in August, 1901. These birds agree with June specimens of *annectens* from Yakutat bay. (*Chapman.*) This species was taken in April, 1893, at Victoria, Vancouver island, by Mr. Spreadborough and was found by him in abundance at Clayoquot sound, Vancouver island in September, 1907.

585. 3. Townsend Sparrow.

Passerella iliaca townsendi (AUDUBON) RIDGWAY. 1901.

Coast district of southern Alaska (islands and coast of mainland) from southern side of Cross sound, Lynn canal, etc., to north side of Dixon entrance; in winter south to northern California. (*Ridgway.*) But very little is known of this bird's habits, and nothing of its nesting. There are four specimens in the National Museum collection from Sitka, and the species undoubtedly occurs north along the mainland coast. (*Nelson.*) Port Althorp, George island, Alaska, June 19th, 1880. (*Bean.*) Common on tall grass on St. Lazaria island, near Sitka, Alaska, where half-fledged young were observed on June 15th, 1898. (*Grinnell.*) One individual was seen at Skagway and several noticed at Glacier, in the White pass, June 8–9, 1899. (*Bishop.*) Common on Queen Charlotte islands, but exceedingly shy. Ten specimens in all were taken, but they are not identical with Sitka specimens, and perhaps should be considered intermediate between *townsendi* and *fuliginosa*. (*Osgood.*)

585. 4. **Sooty Fox Sparrow.**

Passerella iliaca fuliginosa RIDGWAY. 1899.

Breeding in the coast district of southwestern British Columbia, including Vancouver island. (*Ridgway.*) I have only found this bird west of the Coast range in B.C. It is a common summer resident on Vancouver island, where it breeds. (*Fannin.*) A common species in spring around Victoria, V.I. A marked peculiarity of this bird is its scraping among the leaves when feeding, just like a hen. While doing this it hops about with its tail elevated like a wren. It was seen late in June, 1887. (*Macoun.*) Regular summer visitor in British Columbia. (*Lord.*) Tolerably common migrant at Chilliwack, B.C.; breeding on the summits of the Coast range. (*Brooks.*) Seen on Sea island, near Vancouver, B.C., April 25th, 1894. (*E. F. G. White.*)

585*c*. **Slate-coloured Sparrow.**

Passerella iliaca schistacea (BAIRD) ALLEN. 1872.

Quite common at Banff, Rocky mountains, in May and June, 1891 where they were evidently breeding; rare at Penticton, B.C., in April, 1903; one specimen of this form was seen at Rossland, B.C., in June, 1902; one female was shot at Revelstoke, B.C., April 25th, 1890; observed near Fernie, B.C., in willow thickets, April, 1904; first noted at Midway, B.C., May 1st, 1905, and on July 24th at an altitude of 6,000 feet near the Skagit river one appeared to have a nest. (*Spreadborough.*) Taken at Nelson, on Kootenay river, B.C., and two intermediates from further west. (*Rhoads.*)

CCXXXI. **PIPILO** VIEILLOT. 1816.

587. **Towhee.**

Pipilo erythrophthalmus (LINN.) VIEILL. 1824.

Audubon, Vol. III., p. 168, states that it occurs northward to Labrador. (*Packard.*) Accidental in New Brunswick: one shot at Irishtown, May 8th, 1881. (*Chamberlain.*) Cap Rouge, near Quebec, obtained by Mr. Nelson. (*Dionne.*) A few seen and one taken at Ottawa in August, 1890. (*F. A. Saunders.*) Three or four of these birds were seen by the keeper of the rifle range at

Ottawa in 1904 and one shot. In the summer of 1906 he saw about ten frequenting the same spot. (*Rev. G. Eifrig.*)

This bird breeds commonly in the county of Leeds, near Lansdowne, Ont. I have found the nest in a small thick hemlock about 18 inches above the ground on the 19th May, and on the ground, with four eggs, as early as the 6th May. It appears usually to raise a second brood. In eastern Ontario it resorts to the same kind of location as the fox sparrow frequents on the Magdalen islands, preferring second growth woods and old clearings grown up with brambles and brush. It has a preference for broken, uneven ground. It arrives about the middle of April and is one of the last birds to leave in the fall. I have seen it as late as the end of September. (*Rev. C. J. Young.*) Summer resident at Toronto, Ont. First seen at Port Sydney, Muskoka, by Mr. Kay, in 1887; they bred there in 1891; reported rare at Beaumaris in 1897 by Mr. Taverner. (*J. H. Fleming.*) Fairly common summer resident at Guelph, Ont. Arrives about April 20th and leaves about October 8th. (*A. B. Klugh.*) Common summer resident about London, Ont., arriving early, sometimes in March, and averaging April 16th. Although so common at London it is much less so in north Bruce, although it appears to be more common now in that district than it was 10 years ago. The nests are placed on the ground, in shrubs, and occasionally in brush heaps. Two broods are often reared in a season usually consisting of four in the first and three in the second. (*W. E. Saunders.*) This is one of the species which apparently enters Ontario from the southwest, for on looking at the dates of its arrival at London and Chatham we find it is always there before it reaches Hamilton, while at Ottawa, Mr. White has not met with it at all. (*McIlwraith.*) A common summer resident at Penetanguishene, Ont. (*A. F. Young.*)

A common summer resident in sheltered scrub lands in southern Manitoba and northwest to Carberry. (*E. T. Seton.*) This bird was not uncommon about Pembina, where it was breeding in June. A nest was taken, July 11th, containing two eggs that belonged in it, together with *three* that did not, having been deposited by the cowbirds. (*Coues.*) A regular and fairly abundant breeding species in favorable districts throughout Manitoba. Noted in 1906 at Sidney, Birtle and Ellice, Man., and at Touchwood hills, Sask. (*Atkinson.*)

588. Arctic Towhee.

Pipilo maculatus arcticus (SWAINS.) COUES. 1872.

Along the 49th parallel this form becomes established at least as far east as the Mouse (Souris) river, where I secured a specimen in September. On the boundary they were not met with again until the Rocky mountains were reached. (*Coues.*) First saw one at Medicine Hat, Sask., May 3rd, 1894; by the 12th they were common in low scrub along the Saskatchewan and the creeks leading into it. They were also common on the east end of the Cypress hills at the end of June. This species was met with in brush from Old Wives creek, Sask., to Wood mountain and south to Rocky creek, and Medicine Lodge; it was found to be quite common in all the wooded ravines of the Cypress hills; a nest was taken at Farwell creek, June 28th, 1895; it was common in Milk river valley and along the St. Mary river (*Macoun.*) Fairly common species from the 49th parallel nearly to Calgary, becoming rare further north. (*W. E. Saunders.*) Uncommon in the Skull creek and Maple creek, Sask. timber. (*A. C. Bent.*) This handsome ground finch was observed only on the plains of the Saskatchewan, where it no doubt breeds, as one specimen was killed late in July; it arrives in the end of May and frequents shady and moist clumps of wood, being generally seen near the ground. (*Richardson.*)

BREEDING NOTES.—Breeds sparingly in central Saskatchewan and northern Alberta; two sets of four eggs were taken at Fort Saskatchewan, Alta., by Mr. J. Callaghan, on June 12th, 1898; nests made of roots and grass and built in a low shrub a few inches above the ground at the side of a coulee. (*W. Raine.*) This species always builds on the ground or close to it; one nest was taken at Farwell creek, Cypress hills, Sask., June 26th, 1895, on the slope of the bank, under a willow root in a thicket; another was taken the next day. also from the ground in the open, but this was under the roots of *Symphoricarpus occidentalis;* the nests were chiefly built of bark and grass and lined inside with hair; each nest contained four eggs. (*Macoun.*)

588*a*. Spurred Towhee.

Pipilo maculatus megalonyx (BAIRD) COUES. 1872.

At Pass creek near Robson, Columbia valley, a strange bird was seen in a tree on June 20th, 1890; it had a very long tail and was new to us; the next day it was seen again and we decided it was a towhee; on the 26th, Prof. Macoun flushed a bird off its nest under a bush of *Ceanothus velutinus* and he immediately shot it. The male then came along and was shot also; they proved to be this form; within the nest were four half-grown young which we drowned; common everywhere at Trail, B.C., in low bushes, young ready to fly, June 1st, 1902; common in low brush at Penticton, south of Lake Okanagan, B.C., April, 1903; also at Sicamous and Enderby, B.C.; a pair seen at Elko, B.C., May 4th, 1904, and found to be common in low bushes on hillsides at Osoyoos lake, B.C., June, 1905. (*Spreadborough.*) An adult male and female taken at Ashcroft. (*Streator.*) East of Coast range; breeds at Ashcroft. (*Fannin.*) Abundantly haunting the woodlands of all points visited in British Columbia up to 4000 feet. (*Rhoads.*)

588*b*. Oregon Towhee.

Pipilo maculatus oregonus (BELL) COUES. 1872.

Abundant on the coast at Hastings on Burrard inlet and at Port Heney and Agassiz on the Fraser river, in 1899; very abundant at Chilliwack, Douglas and Huntingdon near the International Boundary; abundant on Vancouver island and on the islands in the Gulf of Georgia. (*Spreadborough.*) Abundant on the coast of British Columbia; breeds. (*Streator.*) An abundant resident west of the Coast range; winters on the coast. (*Fannin.*) Common at Chilliwack; permanent resident. (*Brooks.*) Replacing *megalonyx* west of the Coast range; its exact counterpart in habits and habitat. (*Rhoads.*) Rather common around Vancouver, B.C. and Stanley park in July, 1895. (*E. F. G. White.*)

CCXXXII. CARDINALIS BONAPARTE. 1837.

593. Cardinal. Red-bird.

Cardinalis cardinalis (LINN.) LICHT. 1854.

Two were seen, a male and a female at Scotch Lake, York county, N.B., August 20th, 1900. (*W. H. Moore.*) The cardinal can be only

regarded as a casual visitor along our southwestern border. Mr. Norval reports one or two being found near Port Rowan and Dr. Maccallum mentions that a few are seen every summer along the lake shore south of Dunnville, where they are supposed to breed among the evergreens. (*McIlwraith.*) A fine male specimen of this species in the museum of Toronto University is labelled "Weston, Ontario," a northwestern suburb of Toronto. (*E. T. Seton* in *Trans. Can. Institute*, Vol. I., p. 55, 1890.) Mr. Moore's identification is probably incorrect. The birds seen by him were almost certainly the summer tanager.

In September I spent four days, 17th to 21st, in company with my cousin Mr. H. H. Keays, at Point Pelee, collecting. Nearly every day of our stay the fishermen gathered around our camp fire, apparently much interested in us as strangers, and in our work. After telling us of the strange birds they had seen on the point (their descriptions of which were usually too complicated for us to make more than a guess at the species) one of them asked us of a bird that made its appearance about four years ago and had since been quite common, stating that it was a splendid whistler, and that an old lady living in the vicinity had caught a number of them and sold them for cage birds, catching them in a cage trap and using the first one taken as a decoy for more. From his description we concluded that it must be the cardinal (*Cardinalis cardinalis*), and sure enough, on the following day, we secured one, a young male in moulting plumage. Twice afterwards we heard near our camp, just at dawn, the call note of what we decided must have been this bird. Without doubt the cardinal has come to stay at Point Pelee, nor could they select a more suitable place, the cape being quite plentifully covered with red cedar, and the weather in fall remaining mild longer than on the mainland, on account of its proximity to the lake, as is evident by our having no frost during our stay, while on our return we noticed the corn well bleached on the mainland. It is to be hoped, however, that it will not restrict its range to the point nor to the shore of Lake Erie in Ontario, as this bright plumaged bird will make an acceptable addition to our fauna. Inland, we have but few records of stragglers, which in the vicinity of London are as follows: One shot at St. Thomas, spring of 1890, by Mr. O. Foster; one taken in a cedar wamp a mile from London, November 30th, 1896, this being the

first record for Middlesex county, and which is made complete as far as I am able to ascertain by a second at Kilworth by Mr. John Thompson, November 17th, 1899, both these birds being males. The Rev. C. L. Scott reports one shot near Aylmer, Elgin county, about October, 1900. From Guelph one is reported by Mr. F. N. Beattie as spending the winter of 1899 around his place. Other reports come from Chatham and Rondeau, all of single specimens, and apparently stragglers. (*J. C. Keays* in *The Auk*, Vol. XIX., p. 204.) On February 14th, 1901, I procured a female cardinal grosbeak at Penetanguishene, which I sent to Mr. Jas. H. Fleming, of Toronto, about the same time a male was taken near Toronto. (*A. F. Young.*) Between November 20th and 27th, 1902, a male was seen about Rusholme road, Toronto; and one was taken in Toronto, in February, 1900. There are several local records but only two have dates. (*J. H. Fleming.*)

CCXXXIII. **HABIA** REICHENBACH. 1850.

595. Rose-breasted Grosbeak.

Habia ludoviciana (LINN.) STEJN. 1848.

Met with only once near Baddeck, Cape Breton island. (*Dwight.*) Not common about Halifax, but frequent in the vicinity of Truro and Pictou, N.S. (*Downs.*) Uncommon summer resident in Nova Scotia. (*H. F. Tufts.*) A very rare summer resident near St. John, N.B. (*Chamberlain.*) Seen from May to November at Scotch Lake, York county, N.B.; breeds here; a family was seen passing south, August 16th, 1901. (*W. H. Moore.*) A common transient visitor around Montreal, but evidently goes further north to breed; I have only observed it here in spring, so I infer it returns south by another route. (*Wintle.*) Taken at Beauport; rather rare around Quebec. (*Dionne.*)

A moderately common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) A few of these handsome birds remain to breed in the county of Leeds, Ont.; I have twice seen the nest; once on the 9th June in a small beech tree; the eggs were just hatching; again in the middle of June a nest with three eggs in a maple sapling about ten feet from the ground. This bird appears to have become quite common in recent years. A number breed about Sharbot lake,

Ont., also in North Hastings. I have observed them feeding on potato bugs in Frontenac county. (*Rev. C. J. Young.*) A common summer resident in the districts of Parry Sound and Muskoka, breeding usually in second growth hardwood. Regular spring migrant at Toronto, Ont. Mr. Nash gives full records from July 13th to the middle of August and I took a young male on September 10th, 1906. (*J. H. Fleming.*) Rather uncommon summer resident in Algonquin park, Ont. (*Spreadborough.*) Formerly common all over South western Ontario; now it is more so in the north than in the south where it has probably been killed off to a certain extent. (*W. E. Saunders.*) Fairly common summer resident at Guelph, Ont.; arrives about May 10th, and leaves about September 1st. (*A. B. Klugh.*) A breeding summer resident at Penetanguishene, Ont. (*A. F. Young.*)

Common summer resident in Manitoba, in thickets; breeds throughout the province in suitable localities. (*E. T. Seton.*) Quite common breeder at Aweme, Man. (*Criddle.*) An abundant breeding species in all the wooded districts of Manitoba and west to Yorkton, Sask. (*Atkinson.*) Only one specimen at Indian Head, Sask. on May 26th, 1892; first saw three females at Medicine Hat, Sask., May 17th, 1894, later saw two males; a few pairs bred in the river valley; late in June a few were seen in the Cypress hills; taken at Old Wives creek and seen at Wood mountain post, Sask., in July, 1895; was seen on the islands in St. Mary river, Alta. (*Spreadborough.*) A specimen of this bird was obtained near the Saskatchewan on Sir John Franklin's first expedition, but we had not the good fortune to meet with it on our second journey. (*Richardson.*) First seen at Edmonton, Alta., May 15th, 1897; found a nest in an alder bush about ten feet from the ground; nest a very slight affair, in fact, I could see the eggs quite through it; it was just a few sticks placed in the fork of a bush. Eggs three; the male was sitting on the eggs; common in the poplar woods from Edmonton to the McLeod river; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, June, 1903. (*Spreadborough.*) Common from Lesser Slave river down the Athabaska river to Fort McMurray, lat. 56° 40′; not rare up the Clearwater river to Methye portage. (*J. M. Macoun.*) Rare near Prince Albert, Sask., only a few seen during the summer; probably breeds in the country. (*Coubeaux.*)

BREEDING NOTES.—I was pleased to find this truly elegant bird breeding in abundance at Pembina in the undergrowth of the heavy timber along the banks of the Red river, as I had never before enjoyed a good opportunity of studying its habits. It was not observed at any other point along the line, though stated to penetrate as far northward as the Saskatchewan region; a fine suite of specimens was carefully preserved, and several sets of eggs procured; the birds were mating and in full song by the beginning of June, when I arrived upon the spot, but no nests were found until the 21st; four was the largest number found in a nest; others contained only two or three, but in all incubation had begun; the only nest I took myself was built in a thick grove of saplings, about eight feet from the ground; it contained three eggs averaging an inch in length by three-fourths in breadth; these were of a pale dull green colour, profusely speckled with reddish-brown; the nests were rather rude and bulky structures, about six inches across outside by four in depth, with the cavity only half as much each way, owing to the thickness of the loose walls; they were built entirely of the slender tortuous stems and rootlets of some climbing shrub, for the most part loosely interlaced, though more firmly, evenly, and circularly laid around the brim, and finished sometimes with a little horse-hair lining, sometimes without; the male at this season has a delightful song; the female is, however, nearly voiceless, and of an extremely retiring disposition. (*Coues.*)

Nests near Ottawa about ten feet from the ground in trees; the nest is built with small twigs or branches loosely put together and lined with hair-like roots. One nest with four eggs found on June 6th, 1895, and another containing three eggs found on May 31st, 1902. (*Garneau.*) This species breeds commonly about Sharbot lake, Frontenac county, Ont., I have seen three nests this month near the road in low ground; they build a loose nest of twigs, etc., lined with rootlets and fibres, placed eight or ten feet from the ground; the eggs were laid the first week in June. (*Rev. C. J. Young.*) The nest of this species taken at Ottawa was built in a low bush a few feet from the ground; it was a bulky and rude affair built of weed-stems and stout rootlets; it was lined with a little horse-hair and some fine rootlets; eggs, three, pale green, speckled with reddish brown. (*G. R. White.*)

596. Black-headed Grosbeak.

Habia melanocephala (SWAINS.) STEJN. 1884.

Nest with three fresh eggs and male secured by me June 16th, 1905, near Maple creek, Sask. Dr. Bishop saw another pair on Maple creek, July 5th, 1906. On Mackay creek, July 11th, Dr. Dwight and he secured a pair of birds and two eggs. (*A. C. Bent.*) One or two taken and others seen and heard near High river, Alta. in June, 1903 and 1906. (*W. E. Saunders.*) Not uncommon through British Columbia to the coast; heard in the woods at Revelstoke, B.C., May 26th, 1890; breeding in the valley of Pass creek at Robson, B.C., June, 1890; a female shot on May 31st; only observed a pair, which were breeding, near Trail in the summer of 1902; a rare species at Spence Bridge, B.C.; seen at Hastings and Agassiz in the Fraser River valley, where it was not uncommon in May, 1889; abundant at Chilliwack in the spring of 1901; a few seen later at McGuire's a few miles up the river; one seen about 14 miles south of Hope, B.C., June 24th, 1905, and several along the Chilliwack river in 1906. (*Spreadborough.*) A common summer resident on Vancouver island at Victoria and Comox; nests were taken at Lost lake, near Victoria, May 21st, 1887, they were placed in the crotches of *Pyrus rivularis;* at Nanaimo a nest found in *Prunus emarginata.* (*Macoun.*) Common summer resident of the coast region; breeds; arrived about May 1st. (*Streator.*) A summer resident east and west of the Coast range. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Breeding at Agassiz, B.C., May 14th, 1897. (*E. F. G. White.*)

CCXXXIV. GUIRACA SWAINSON 1827.

597. Blue Grosbeak.

Guiraca cærulea (LINN.) SWAINS. 1827.

One specimen shot at Four-mile House, near Halifax, N.S. (*Downs.*) On the 7th May, 1862, both sexes of this bird were noticed at Mille Vaches, lower St. Lawrence, Que., by Mr. Peverley, Sr.; they were accompanied in the same tree by the little indigo bunting. (*Couper* in *Can. Nat.*, Vol. VII., 1862.)

CCXXXV. CYANOSPIZA Baird. 1858.

598. Indigo Bunting.

Cyanospiza cyanea (Linn.) Baird. 1858.

Apparently rare at St. John, N.B.; but said to be common on the western side of Nova Scotia. (*Chamberlain.*) Have only seen one pair at Scotch Lake, York county, N.B. That was in June, 1900. (*W. H. Moore.*) Taken at Charlesbourg, near Quebec; rather rare in the vicinity of Quebec. (*Dionne.*) A common summer resident in the Montreal district. Breeds in Mount Royal park. I have found their nests with eggs from June 18th to July 13th, and observed them here from May 11th to August 13th. (*Wintle.*)

A moderately common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) A common summer resident in the counties of Leeds and Renfrew, where it usually makes its nest about the middle of June in a raspberry thicket. (*Rev. C. J. Young.*) A fairly common summer resident in the districts of Parry Sound and Muskoka. It arrives later than most species. Regular though not very common summer resident at Toronto, Ont. (*J. H. Fleming.*) Common summer resident at Guelph, Ont. (*A. B. Klugh.*) Common in all suitable localities both in the western and northern extremities of the western peninsula of Ontario. (*W. E. Saunders.*) A rare and transient visitant at Penetanguishene, Ont. (*A. F. Young.*) I was much surprised on July 30th, 1907, to locate a pair of indigo buntings breeding in the thick underbrush of hazel and raspberry about 15 miles west of Portage la Prairie, Man. This is the only record I have of it in Manitoba. (*Atkinson.*)

Breeding Notes.—The nests taken at Ottawa were placed in low bushes, and were large for the size of the bird. They are composed of grass, leaves and weed-stalks, lined with fine grass. Eggs 4 or 5, white, tinged with blue; some eggs are speckled with reddish-brown. (*G. R. White.*) This bird breeds sometimes at Ottawa, but more frequently in Montreal in June, also at Lake Nomininge, 100 miles north of Ottawa, in July. Nest in a fork in a bush two or three feet from the ground, made of dried leaves and lined with fine grass or hairs. Eggs in the set, three or four of a pale blue colour. (*Garneau.*)

599. **Lazuli Bunting.**

Cyanospiza amœna (Say) Baird. 1858.

This species was found in the Bow valley from the foothills at Morley up to Banff in the Rocky mountains, but although often seen was not common in the summer of 1891; common at Trail on the Columbia and at Cascade in low bushes on the hillsides in June and July, 1902; three seen at Osoyoos lake, B.C., May 28th, 1905 and common along the trail from Osoyoos to Princeton; found at Kamloops and Spence Bridge, B.C., in abundance in June, 1889; two pairs were seen at Agassiz on May 13th, the same year; one specimen seen at Chilliwack, B.C., May 23rd, 1901; and one there in 1906; shot a female at Comox, Vancouver island, June 23rd, 1893, the only one seen; one seen at a lake near Victoria, Vancouver island, May 15th, 1887. (*Spreadborough.*) This beautiful bird is abundant between the Coast range and the Rockies, but does not extend further north than Bonaparte river which is north of Ashcroft in British Columbia. (*Rhoads.*)

CCXXXVI. **SPIZA** Bonaparte. 1824.

604. **Dickcissel.**

Spiza americana (Gmel.) Ridgw. 1880.

Since the irruption of this species into eastern and central Ontario in 1895, recorded in the *Ottawa Naturalist* of that year none have been observed near London; this species, however, is a steadily common breeder in the west, all over the country south of Lake St. Clair and becomes less numerous and more southern as one comes east; the three nests so far recorded in Ontario were all on the ground, though they are often placed higher in the prairie states; the four or five blue eggs have a striking resemblance to those of the bluebird. (*W. E. Saunders.*) Mr. Saunders writes that since the publication of the first edition of this catalogue this species has apparently vanished from western Ontario and that no positive information of its occurrence has been received in recent years though the customary localities have been investigated. (*Macoun.*) On June 14th, 1897, while doing some miscellaneous collecting near the big slough at Portage la Prairie, Man., a strange bird flushed

out of the grass and alighted on a fence-post; I immediately secured it and was very surprised to discover that I had collected a fine male black-throated bunting; no others were seen. (*Atkinson.*). One individual taken on Sable island, N.S., September 12th, 1902. (*J. Boutelier.*)

CCXXXVII. **CALAMOSPIZA** Bonaparte. 1838.

605. Lark Bunting. White-winged Blackbird.

Calamospiza melanocorys Stejn. 1885.

The apparent absence of this species from the Red river region with its abundance on the Missouri is one of the strong marks of difference in the fauna of the two watersheds. It is an abundant and characteristic species of the sage-brush country of the upper Missouri and extends thence to the Rocky mountains through the Milk river region. The bird is rather a late breeder unless the eggs found July 9th and 21st were those of a second brood. The eggs are four or five in number, like those of the blue bird and normally unmarked, though occasionally sparsely dotted. Two cow-bird's eggs were found in one of the nests secured. The nest is sunk in the ground so that the brim is flush with the surface, and is built of grass and weed-stalks, lined with similar but finer material. (*Coues.*) Rare at Aweme, Man. in spring. (*Criddle.*) A probable summer resident of southwestern Manitoba. (*E. T. Seton.*) Not noted at all in 1905 except one doubtful record of a female. Very common in 1906 on the prairies and hills north of Maple creek and about Crane lake, Sask. (*A. C. Bent.*) Occasionally seen east of Crane lake, but in its neighbourhood they were quite common and breeding late in June, 1894. They always placed their nests on the ground under sage bush (*Artemisia cana*); this they did in all parts of the prairie region where they were found. In 1895 they were found in some numbers at 12-Mile lake, near Wood mountain, Sask., in sage flats; fifty miles further west on Frenchman river, in sage flats, they were again numerous and breeding under sage brush; at East End post, Cypress hills, Sask., it was again noticed; also at Farwell creek, and lastly at Sucker creek, west end of Cypress hills where there was a flock of over thirty; they always nested in the sage brush and lived in colonies; one individual was shot at Banff, Rocky mountains in May, 1891; saw one at Thurston ranch, Chilli-

wack river, B.C., August 2nd, 1906. (*Spreadborough.*) I never saw this bird in Manitoba but it is not at all scarce in southwestern Saskatchewan and Alberta. I found its nest at Rush lake and Crane lake, Sask. It makes its nest in the grass and lays 4 pale blue eggs. This species and McCown's longspur are two of the sweetest songsters on the prairie. (*W. Raine.*)

Family XLIVII. **TANAGRIDÆ.** Tanagers.

CCXXXVIII. **PIRANGA** Vieillot. 1807.

607. Louisiana Tanager.

Piranga ludoviciana (Wils.) Richardson. 1837.

Fort Chipweyan, Lake Athabaska, Alta. (*Ridgway.*) Abundant at Athabaska Landing, 90 miles north of Edmonton, and up the Athabaska to Lesser Slave river. A few were seen down the Athabaska to Fort McMurray, lat. 56° 40′. (*J. M. Macoun.*) Common from the mouth of Lesser Slave river to Peace River Landing, lat. 56° 15′, in June, 1903; first seen, May 8th, 1897, at Edmonton, Alta.; after this date they became common and soon began to breed; common from Edmonton to Yellowhead pass in June, 1898; common in the foothills from Calgary to Crow Nest pass; not very common at Banff, 1891, but breed in the Bow river valley from the "Gap" inwards. They are found all through the mountains, but seem to be most abundant in the Columbia valley both east and west of the Selkirks; very common at Revelstoke, Deer park and Robson, in the Columbia valley; common along the International Boundary from Elko, B.C. west to Chilliwack lake in 1904 and 1905, apparently breeding in tall trees as no nests were taken although many birds were seen; also taken west of the Eagle pass in the Gold range; occasional in woods at Spence Bridge and Kamloops, also at Agassiz and Westminster Junction in 1889; abundant at Chilliwack; a few seen at McGuire's, and two observed on the International Boundary at Huntingdon in 1901; a common summer resident throughout Vancouver island. (*Spreadborough.*) Abundant summer resident everywhere. (*Streator.*) An abundant summer resident throughout the province; breeds on Vancouver island and mainland. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Fairly abundant and uniformly distributed over the coasts, mainland and islands of British Columbia. (*Rhoads.*)

BREEDING NOTES.—Mr. G. F. Dippie and myself have both received eggs and skins of this bird from Red Deer, Alta.; on June 3rd, 1898, Mr. Wenman found a nest on the Red Deer river, it contained four eggs and was built in a poplar five feet from the ground. (*W. Raine.*)

608. Scarlet Tanager.

Piranga erythromelas VIEILL. 1819.

A few occur in the spring in Nova Scotia. (*Downs.*) Very rare summer visitor to the Annapolis valley, N.S. (*H. F. Tufts.*) A very rare summer resident in New Brunswick; has been taken at the Grand falls of the St. John. (*Chamberlain.*) A rare summer visitor at Scotch Lake, York county, N.B. (*W. H. Moore.*) Taken at Lorette; a rare summer visitor around Quebec. (*Dionne.*) A transient visitant, but common around Montreal; I have not seen it in the autumn. (*Wintle.*)

Moderately common summer resident at Ottawa. (*Ottawa Naturalist,* Vol. V.) Decidedly more abundant at Ottawa than formerly. (*Rev. E. Eifrig.* This handsome bird occasionally breeds near Lansdowne, Ont., and I suppose in the county of Renfrew, where I have seen it in summer; I once found a nest in June, 1899, built in a bushy second growth maple about seven feet from the ground, not far from the Grand Trunk railway at Lansdowne. (*Rev. C. J. Young.*) A common summer resident in the districts of Parry Sound and Muskoka; breeds in hardwood bush. Regular migrant at Toronto, Ont., sometimes common. (*J. H. Fleming.*) Not rare in Algonquin park, Ont. in summer. (*Spreadborough.*) A common summer resident in Middlesex and North Bruce, Ont. (*W. E. Saunders.*) Fairly common summer resident at Guelph, Ont.; arrives about May 12th, leaves about September 15th. (*A. B. Klugh.*) A common and breeding summer resident at Penetanguishene, Ont. (*A. F. Young.*) Not uncommon in eastern Manitoba; known to breed on the shores of the south end of Lake Winnipeg; has been seen as far west as Qu'Appelle in southeastern Saskatchewan. (*E. T. Seton.*) A regular though not common migrant at Portage la Prairie, Man. (*Atkinson.*)

BREEDING NOTES.—Nest at Ottawa on the horizontal bough of a tree; it is rather a large affair, composed of twigs, fibres and

rootlets, lined with fine grass. Eggs, 4, of a dull greenish blue, spotted with lilac and brown. (*G. R. White.*)

610. Summer Tanager.

Piranga rubra (LINN.) VIEILL. 1807.

One or two specimens of this species have been taken in the spring in Nova Scotia. (*Downs.*) On the island of Grand Manan, N.B.; one specimen taken in May, 1881. (*Batchelder.*) A rare transient visitant in the district of Montreal. Mr. Kuetzing says eight examples of this species have been shot on the island of Montreal. I believe I saw one at St. Bruno on May 25th, 1885, but it disappeared too quickly to be sure of it. (*Wintle.*) One specimen taken at Scarboro Heights, Ont., May, 1890. (*S. Herring.*) After many years looking for its occurrence Mr. McIlwraith obtained one specimen near Hamilton in May, 1885. [See Birds of Ontario, page 335.] A few specimens seen at Listowel, Perth county, Ont., in the spring of 1892. (*W. L. Kells*, in *Trans. Can. Inst.* Vol. III., p. 70.) Not having seen any of the specimens referred to above none of these references can be vouched for with the exception of the specimen taken at Scarboro Heights, near Toronto, by Mr. Herring which is now in the National Museum at Ottawa.

FAMILY XLV. HIRUNDINIDÆ. SWALLOWS.

CCXXXIX. PROGNE BOIE. 1826.

611. Purple Martin.

Progne subis (LINN.) BAIRD. 1865.

A very rare species in Newfoundland, only one shot at Daniel harbour. (*Reeks.*) A few seen in the spring at Halifax, but more common at Windsor, N.S. (*Downs.*) Common at Truro and common at Windsor, N.S. (*Downs*). One observed in August in the vicinity of Windsor, N.S. (*H. F. Tufts.*) Common at Truro and Amherst, N.S., in the spring of 1901. (*C. R. Harte.*) A few pairs breeding at Brackley point, Prince Edward island, June, 1888. (*Macoun.*) Uncommon summer resident at St. John, N.B., but quite common at Hampton and Westfield. (*Chamberlain.*) A tolerably common summer resident at Scotch Lake, York county, N.B.

(*W. H. Moore.*) Observed at Point du Chene, N.B., where a colony occupied a martin's box in the village. (*Brewster.*) A common summer resident around Quebec. (*Dionne.*) A common summer resident at Montreal; breeds in the city. (*Wintle.*) One observed in August in the vicinity of Windsor, N.S. (*H. F. Tufts.*)

A common summer resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) This bird breeds readily in bird boxes placed against a house as well as under the eaves of buildings and similar places. It is common in Leeds, Lanark and Renfrew counties, but seems to be decreasing in numbers. (*Rev. C. J. Young.*) Regular summer resident at Toronto; local and decreasing. Reported as increasingly common at Bracebridge, and in the settled parts of Muskoka by Mr. Taverner. (*J. H. Fleming.*) A few breed in the cities, and an odd pair in some of the villages around Guelph; arrives about May 10th and leaves about August 1st. (*A. B. Klugh.*) A common summer resident at Penetanguishene, Ont. (*A. F. Young.*) Rare summer resident in Manitoba; breeding in pairs but seldom in numbers; have been taken breeding on Lake Manitoba. (*E. T. Seton.*) I was rather surprised to find martins breeding at Turtle mountain, on the 49th parallel, having observed none at Pembina. (*Coues.*) First seen at Indian Head, Sask., May 24th, 1892, they soon become tolerably common and remained, breeding in hollow trees; first arrivals at Medicine Hat, Sask., May 16th, 1894, breeding in the river valley in old trees; observed two at the crossing of the McLeod river, north of Edmonton, June 19th, 1898; tolerably common in the streets at Victoria, Vancouver island; first seen May 8th, 1893, and on May 28th, 1887; observed several in the dead woods north of Peace river, near White Mud river, lat. 56° 20′ in June, 1903. (*Spreadborough.*) Not uncommon but local near Prince Albert, Sask.; noted breeding every year in great numbers in the dead trees of a willow and poplar thicket among marshes. (*Coubeaux.*) Only one specimen, a male taken at Victoria, was secured; it is difficult to state if it belongs to the eastern or western form. (*Rhoads.*) Common in the vicinity of Vancouver, B.C., and breeding in numbers in 1894. (*E. F. G. White.*)

Breeding Notes.—I observed this species June 29th, 1886, nesting in the city, in a bird house placed on top of a pole erected on a shed in rear of St. Joseph Drug Hall, No. 2241, Notre Dame street,

where they are said to breed twice a year, in the months of April and June; I have not noticed the purple martin breeding in any other place within the city, but I dare say they do breed in other yards where they are encouraged to nest. (*Wintle.*) At Ottawa this species builds in holes in trees or in boxes in the city. The nest is composed of hay, straw, bits of twine and paper; lined with feathers; eggs, four or five, pure glossy white. (*G. R. White.*) Breeds all over central and western Ontario, making its nests in holes under the eaves of buildings; in the vicinity of Yorkton it makes its nest in holes in trees like the tree swallow; on June 1st, 1901, I found a purple martin sitting on five eggs in a hole in an old stub five feet from the ground; the bird allowed me to lift her off the eggs and I threw her into the air and she flew away; the following day I again found her sitting upon the eggs; later I found other nests around Crescent lake. (*W. Raine.*)

CCXL. **PETROCHELIDON** CABANIS. 1850.

612. **Cliff Swallow.**

Petrochelidon lunifrons (SAY) CASSIN. 1853.

A rare summer migrant in Newfoundland. (*Reeks.*) Common summer resident at Halifax, N.S. (*Downs.*) Common in Nova Scotia from May 10th to September 1st. (*H. F. Tufts.*) Common at Sydney, Cape Breton island, breeding locally. (*C. R. Harte.*) Abundant in some localities, especially at Margaree, Cape Breton island, July, 1898; rather common ,flying over the marshes at Brackley point, Prince Edward island, July, 1888. (*Macoun.*) A common bird on Prince Edward island; locally distributed and nesting in colonies under the eaves of barns and houses. (*Dwight.*) An abundant summer resident in town and country in New Brunswick. (*Chamberlain.*) A summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) I found a small colony nesting under the eaves of a shed at Port Hawkesbury, Cape Breton island. (*Brewster.*) Taken at Beauport; a common summer resident around Quebec. (*Dionne.*) Common summer resident at Montreal. Breeds on the island of Montreal. Observed from April 19th to September 4th, 1893. (*Wintle.*)

Common summer resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) Very common in all parts of eastern Ontario. (*Rev. C.*

J. Young.) Regular summer resident at Toronto, Ont. (*J. H. Fleming.*) Formerly abundant about London, Ont., but now restricted and found on but very few farms, though when protected as many as fifty pairs are yet known to breed on one barn. (*W. E. Saunders.*) Breeds in large colonies at a few barns in the vicinity of Guelph, Ont. Arrives about May 15th, leaves about August 17th. (*A. B. Klugh.*) An abundant summer resident at Penetanguishene, Ont. (*A. F. Young.*)

This is the most abundant, generally distributed and characteristic species of the swallow family throughout the region along the 49th parallel from Pembina to the Rocky mountains. The laying season in this latitude is at its height during the second and third weeks of June. (*Coues.*) Very abundant summer resident in Manitoba; at Brandon, Fort Ellice and Shoal lake, in 1882, they were breeding in very large numbers, having placed their nests under the eaves and gables of barns and houses. Nesting in great colonies in the cliffs of Great Slave and Artillery lakes. (*E. T. Seton.*) Rare at Aweme, Man., but noted in large numbers nesting in the banks of the Souris river. (*Criddle.*) Everywhere in the west an abundant breeding species. Particluarly interesting colonies are to be found along the course of the Assiniboine river, through the Carberry sandhills, where hundreds of nests forming compact masses, covering many square yards, are built against the sheer high banks. (*Atkinson.*)

First observed at Indian Head, Sask., on May 24th, 1892; they soon became common and bred in large numbers in suitable places; this species reached Medicine Hat, Sask., May 22nd, 1894, and immediately began to build new and repair old nests; later they were found breeding under the eaves of all the water-tanks along the Canadian Pacific railway between Medicine Hat and Moose Jaw; at Crane lake they were particularly abundant, building their nests in hundreds under the eaves of the farm buildings; no matter how often the nests were knocked down they were replaced by others; this species was seen in 1895 from Old Wives lakes throughout the whole prairie region across southern Saskatchewan by Wood mountain, Frenchman river and the Cypress hills; in Alberta it was abundant along Milk river, where it bred in large communities, as well as along Spur creek, Sage creek and Many Berries creek; a common species in the Bow valley nearly up to Banff in the Rocky Mountains; very abundant along the Peace river, Alta., in 1903; first seen at

Edmonton, Alta., May 13th, 1897; common by the 21st, and building their nests by hundreds in the town; saw a few nesting in the cut banks of the river between Edmonton and the Athabaska river in June, 1898. (*Spreadborough.*) A large number of old nests were noticed between Athabaska Landing and Lesser Slave river, Alta., but no birds were seen; we were very likely too early in the season. (*J. M. Macoun.*) First observed on May 30th, 1900, then in great numbers, building their nests in the town of Prince Albert, Sask. (*Coubeaux.*)

In the year 1820 this species was discovered by Major Long near the Rocky mountains, and in the same year by Sir John Franklin's party, on the journey from Cumberland House to Fort Enterprise, and on the banks of Point lake in lat. 65°, where its earliest arrival was noted, in the following year, to be June 12th. Its clustered nests are of frequent occurrence on the "barren grounds," and they are not uncommon throughout the whole course of the Great Slave and Mackenzie rivers. (*Richardson.*) North to Rat river on the Mackenzie; common. (*Ross.*) In 1856 about one hundred and fifty nests of this species were built, for the first time, at Fort Good Hope, on the Mackenzie river, and in 1866, one was seen examining the eaves of the houses at Fort Anderson, but it did not remain. They, however, breed in large numbers along the banks of the Lockhart and Anderson rivers. (*Macfarlane.*) Common in British Columbia. (*Lord.*) Common everywhere in the interior; breeds. (*Streator.*) Breeding on farm buildings at Osoyoos lake, B.C. (*Spreadborough.*) I have only found this bird east of the Coast range, where in some localities along the Cariboo road it is very abundant. (*Fannin.*) Rare at Chilliwack; may breed in the vicinity. (*Brooks.*) Abundant east of the Coast range in British Columbia. (*Rhoads.*)

This bird, from its nesting habits, is precluded from being a resident on the arctic coast. It has been taken at Nulato, and seems to be common at the trading stations along the Yukon. (*Nelson.*) This species was common at Log Cabin, June 15th; at Cariboo Crossing, lat. 60°, saw a few on June 29th, probably members of the small colony breeding on the cliffs of a small island in Tagish lake. We next saw the species near Hootalingua river, July 19th, and from this point to Dawson in lat. 64° 15′ we frequently met with colonies

of varying size, the largest being near White river. Their nests were attached to cliffs bordering the river, except at Fort Selkirk, where they were breeding under the eaves of houses. (*Bishop.*)

Breeding Notes.—The nest of the cliff swallow is built of mud and is shaped like a bottle with the neck downward; it is lined with feathers, grass, leaves, string and bits of rag; eggs, four; white, spotted with reddish brown. (*G. R. White.*) At Amherst, N.S., the birds were common on June 5th, and under the Chignecto ship canal power-house were the remains of many old nests, but no new ones; the watchman said they breed very erratically, some years in large numbers, others not at all; there were no nests under the eaves of barns. (*C. R. Harte.*) A covered nest of mud lined inside with grass and feathers, fixed on the outside wall of barns and sheds just under the roof; nests taken at Ottawa and Lake Nomininge, 100 miles north of it; a first sitting in May and a second in July is the usual procedure. (*Garneau.*)

CCXLI. **HIRUNDO** Linn. 1758.

513. Barn Swallow.

Hirundo erythrogaster Bodd. 1783.

Two specimens are known to have been obtained in Greenland; one at Fiskenæs about 1830, the other at Nenortalik. (*Arct. Man.*) Breeds at Northwest river at the head of Hamilton inlet, Labrador. (*Packard.*) A rare summer resident at Cow Head, Newfoundland. (*Reeks.*) Common summer resident throughout Nova Scotia. (*Downs*; *Tufts.*) Two individuals seen on Sable island, N.S., April 30th, 1902, and one September 16th, same year; in large numbers June 8th, May 22nd and August 20th, 1904; four on August 9th, 1905, and a number, August 20th, 1905; one, May 4th and others May 10th, 1906. (*J. Boutelier.*) Very common in Amherst, N.S., June 5th, 1901; there were plenty of old nests, but no new ones at that date. (*C. R. Harte.*) Rather common on Cape Breton island, 1898; common at Brackley point, Prince Edward island, 1888. (*Macoun.*) Abundant and generally distributed on Prince Edward island. (*Dwight.*) Common summer resident throughout the country around St. John, N.B. (*Chamberlain.*) Rare in the Restigouche valley, N.B. (*Brittain & Cox.*) Common summer resident

at Scotch Lake, York county, N.B. (*W. H. Moore.*) Taken at Beauport; common summer resident around Quebec. (*Dionne.*) A common summer resident at Montreal; breeds on the island of Montreal; observed here from May 19th to August 20th. (*Wintle.*)

A common and abundant summer resident at Ottawa. (*Ottawa Naturalist,* Vol. V.) Very common in eastern Ontario. (*Rev. C. J. Young.*) An abundant summer resident in the Parry Sound and Muskoka districts; regular summer resident at Toronto, Ont. (*J. H. Fleming.*) Common in Algonquin park, Ont.; a pair built in the boat-house at Câche lake, eggs hatched on June 16th, 1900. (*Spreadborough.*) Common summer resident at Guelph, Ont.; arrives about April 20th, leaves about September 5th. (*A. B. Klugh.*) An abundant summer resident at Penetanguishene, Ont. (*A. F. Young.*) On the morning of August 13th, 1901, while I was encamped at the mouth of a river on the "barren grounds," about twenty-five miles south of Cape Eskimo, on the west coast of Hudson bay, a barn swallow that had evidently been following the course of the stream flew past the camp. When it reached the bay it turned southward and soon disappeared from sight down the coast. (*E. A. Preble.*)

I have no note of seeing this bird at Pembina, but during July and August, they were observed at various points along the 49th parallel, nearly to the Rocky mountains. (*Coues.*) Tolerably common at Aweme, Man. (*Criddle.*) A rapidly increasing species throughout Manitoba and the Northwest. I was five years at Portage la Prairie before I collected a specimen, but of recent years they are becoming quite numerous. (*Atkinson.*) A rare summer visitant in Manitoba, but breeding west of the province at Qu'Appelle. (*E. T. Seton.*) First seen at Indian Head, Sask., on May 24th, 1892; they were common in a few days and breed in the vicinity; two males were the first arrivals at Medicine Hat, Sask., May 15th, 1894, building commenced on May 20th; at Crane lake, 100 miles to the east, many pairs were breeding in the farm buildings early in June; late in the month they were found in old buildings at the east end of the Cypress hills; one nest was found at Crane lake, built on a stringer of a bridge across a small creek; in 1895 this species was seen on the prairie from Old Wives creek by way of Wood mountain and Frenchman river to the south side of the Cypress hills; it was found in all the ravines of the Cypress hills and a nest was taken at Sucker creek in

an old shack; it was also found on Spur creek and was very common along Milk river, St. Mary river, and Lee creek to the foothills of the Rocky mountains; two observed at the head of Lesser Slave lake in June, 1903; common from Edmonton to Yellowhead pass in June, 1898; occasionally seen in the foothills from Calgary southward to Crow Nest pass in July and August, 1897; a common species at Banff, Rocky mountains, breeding in the barns and outhouses in the village in June, 1891; first seen at Midway, B.C., May 9th, and observed breeding in several places along the Similkameen river; not seen in the Columbia valley except on the mountains on the west side of Pass creek, near Robson, B.C., June 26th, 1890; common at Kamloops, Spence Bridge and Penticton, B.C.; specimens were taken at Westminster Junction, Agassiz and Hastings, Burrard inlet, B.C., in 1899; abundant at Chilliwack in the spring of 1901; a few seen at Huntingdon, on the International Boundary, in September; an abundant summer resident throughout Vancouver island. (*Spreadborough.*) In the Northwest Territories, where the habitations of men are few and far between, it inhabits caves, particularly in the limestone rocks, and it also frequents the outhouses of the trading posts. When Fort Franklin was erected on the shores of Great Bear lake, in the autumn of 1825, we found many nests in the ruins of a house that had been abandoned for more than ten years. At Fort Chipweyan, in lat. 59°, the barn swallows arrive regularly about May 15th, and we observed them in the same month at Fort Good Hope, on the Mackenzie river, in lat. 67½°. (*Richardson.*) Several seen about tall cliffs on the north side of Great Slave lake. (*E. T. Seton.*) North to Fort Resolution, on Great Slave lake; rare. (*Ross.*) An abundant summer resident throughout British Columbia. (*Fannin.*) More plentiful east than west of the Coast range. (*Lord.*) Common everywhere; breeds. (*Streator.*) An abundant summer resident at Chilliwack, Fraser river valley, B.C. (*Brooks.*) Uniformly abundant throughout British Columbia up to 5,000 feet. (*Rhoads.*) Immense flocks late in the fall at Lulu island, in the lower Fraser river, B.C. (*E. F. G. White.*)

A few barn swallows were always found about the numerous deserted Indian villages and their nests were frequently noticed on the big cedar beams which are the framework of the Haida houses on Queen Charlotte islands. (*Osgood.*) Three specimens taken at Seldovia, Alaska, July, 1903. (*Anderson.*) This bird is the most

common and widely distributed species of the swallows throughout the north. In Alaska it is found along the southeastern coast, extending thence over nearly the entire Aleutian chain, and north along the coast of the mainland to Kotzebue sound, and thence east throughout the territory wherever suitable locations occur. (*Nelson.*) Breeding abundantly about the town of Sitka, Alaska, under the eaves of buildings; a few pairs found nesting on the cliffs on the islands out in the bay. This swallow was seen almost daily at Cape Blossom, Kotzebue sound, Alaska; the species was seen on the upper Kowak and in the delta of that river in June. (*Grinnell.*) This bird arrives at St. Michael about June, and as soon as the ground is thawed, begins to build. (*Turner.*)

Breeding Notes.—The nest of this species is built of mud mixed with hay or straw and lined with fine grass and a thick bed of feathers. Eggs, five; white, spotted with reddish-brown. (*G. R. White.*) Not nearly so plentiful at Scotch Lake as *lunifrons*. Always building inside buildings. Eggs, from four to six, placed in a soft feather-lined nest of mud and hay. Some pairs raise two broods in one season in the same nest. One pair abandoned the second brood and went south, September 9th, 1901; the young died in the nest. (*W. H. Moore.*) I was told by missionaries that the swallows nested in the deserted Eskimo igloos, building their mud nests against the sides near the roof. On July 1st, 1899, I found a barn swallow's nest built on a beam in the house of a small river steamer, stranded at the side of Mission inlet. The nest was constructed as usual of a mixture of mud and grasses with a lining of finer grass and a large quantity of white ptarmigan feathers almost burying the eggs. (*Grinnell.*) Nests oblong and attached to the walls or to the rafters of barns and other buildings; or round and placed on the beams. They are made of mud arranged in small pellets formed and mixed with grass and have a lining of feathers and hair. Four to six eggs in the set at Ottawa and at Lake Nominingue, 100 miles north of it, in June and July. (*Garneau.*)

613*a*. Alaskan Barn Swallow.

Hirundo erythrogaster unalaschkensis (Gmel.) Palmer. 1899.

A few barn swallows were flying over the marshes of Chilcat inlet, June 1st, 1899; I heard they were common at White Pass City, June

9th, and we saw two about the buildings at White pass summit, June 10th; at Log Cabin they were common, June 14-20th; a few were noticed at Lake Bennett, June 19-21st. I refer all seen to this sub-species, because all had remarkably long tails. (*Bishop.*) Walking along the hills near the village of St. George on May 28th, 1890, with Mr. Ed. Lavender, we saw a swallow skimming along the edge of the cliff, catching the flies which the warm sun had enticed from the crevices of the rocks. Shortly afterwards it flew just over my head while among the houses of the village. Drs. Noyes and Hereford, who have each spent more than ten years on the island, assured me that a swallow was unknown there, but later in the evening I had the opportunity of showing them the bird on another part of the cliff; it remained about the village for nearly two weeks; on June 4th, while standing on Black bluff, St. Paul, I watched a swallow coming into the land and then fly northward up the island; I found a nest at Unalaska, on August 13th, containing three large young, a male and two females and secured the adults also; the nest is of mud held together by grass rootlets; it is nine inches wide by four inches deep, the cavity is two and a half inches in diameter and one and three-quarter inches deep; grass rootlets encircle the cavity, which is well lined with gull and raven feathers; it was built in a large cavity, almost a cave, of a rock on a hillside, and was placed on the slightly sloping face of the back portion, about its centre; a slight inequality of the rock face was sufficient to hold it in place; to enter the cavity the birds had to fly to the face of the rock and then dip downward between the rock and many tall plants, which effectually hid the opening; I saw no others. (*Palmer.*)

CCXLII. **IRIDOPROCNE COUES.** 1878.

614. **Tree Swallow.**

Iridoprocne bicolor (VIEILL.) COUES. 1878.

Common at Big island in the Koaksoak river near Fort Chimo where it breeds abundantly; abundant throughout the northern portions of Labrador. (*Packard.*) A very common summer migrant at Cow Head, Newfoundland. (*Reeks.*) A common summer resident at Halifax, N.S. (*Downs.*) Common in Nova Scotia from April 20th to September. (*H. F. Tufts.*) A common summer resident at Sydney, Cape Breton, island. (*C. R. Harte.*) Rather

common in many parts of Cape Breton island, N.S., 1898; common at Brackley point, Prince Edward island, June, 1883. (*Macoun.*) Fairly common, nesting in old woodpecker holes and clearings, crevices about barns and the hollow ends of rails composing the zig-zag fences so common on Prince Edward island. (*Dwight.*) Common summer resident at St. John, N.B. (*Chamberlain.*) A tolerably common resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Rare in the Restigouche valley, N.B.; only seen in the vicinity of settlements. (*Brittain & Cox.*) On July 9th two were seen at Fox bay, Anticosti. (*Brewster.*) A common summer resident around Quebec. (*Dionne.*) An abundant summer resident at Montreal; breeds in the city and in Mount Royal park; I have found their nests containing eggs, from May 29th to June 2nd, and young birds in nests to July 14th; observed here from April 7th to September 13th. (*Wintle.*)

A common and abundant summer resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) Very common in eastern Ontario; this species is the first swallow to arrive in the spring and consequently is the earliest to breed. (*Rev. C. J. Young.*) Regular summer resident at Toronto, Ont.; abundant summer resident in the Parry Sound and Muskoka districts; I have met with them nesting in deserted woodpecker holes. (*J. H. Fleming.*) Two pairs were breeding at Câche lake, Algonquin park, Ont. in June, 1900, one pair in an old woodpecker's nest in a telegraph pole, the other pair in a hole in a tree on the shore of the lake; common from Missinabi to Moose Factory, James bay. (*Spreadborough.*) Formerly quite common at London, Ont., but now much less so; fully as numerous in north Bruce as near London; although this bird departs from the vicinity of London about August 20th to 25th yet on September 20th, 1900, I saw about 50 circling over the marshes at Point Pelee, so that it evidently travels very slowly for the first stage of its journey. (*W. E. Saunders.*) Common summer resident at Guelph, Ont.; arrives about April 14th and leaves about August 18th. (*A. B. Klugh.*) A few seen on lower Red river, June 15th, 1901, and two at Norway House, June 19th; common between Norway House and Oxford House, and many nests were observed in deserted holes of woodpeckers, in trees at the water's edge, June 23rd to 30th; common also at Oxford House and noted on Steel river, July 9th; on our return through their haunts early in September we saw none. (*E. A. Preble.*) York Factory, Hudson bay. (*Dr. R. Bell.*)

Only observed at Pembina on the 49th parallel where it was breeding in small numbers about the fort. (*Coues.*) Common summer resident of wooded parts of Manitoba; on July 17th went to White Horse hill; found a large colony of white-breasted swallows nesting in old woodpecker's holes, with which the timber is riddled; this is the largest colony I have seen; it numbers perhaps 20 pairs; nearly all of these settlements that I have noted have been close to a sheet of water. (*E. T. Seton.*) Fairly common at Aweme, Man. (*Criddle.*) One of the most abundant breeding species in Manitoba, and the west. (*Atkinson.*) First seen at Indian Head, April 8th, 1892; they became common by May 19th, but a few remained to breed as they were seen as late as June 24th; only two specimens observed at Crane lake in 1894 and none at Medicine Hat; a few specimens were observed at Waterton lake, close to Chief mountain in August, 1895; observed from the mouth of Lesser Slave river to Peace River Landing, lat. 56° 15′, June, 1903; first seen at Edmonton, Alta., April 30th, 1897, breeding in trees late in May, found a nest in a hole in a balsam poplar stub about 12 feet from the ground; nest made of a little fine grass, lined with feathers; seen from Edmonton to Jasper House, breeding in holes in trees in June, 1898. (*Spreadborough.*) A few seen in the timber along creeks in 1905 and one at Hay lake, June 6th, 1906. Mr. Day found a nest with four eggs in the Skull creek timber, June 9th, 1906. (*A. C. Bent.*) Abundant every year and breeding in great numbers throughout northern Saskatchewan. (*Coubeaux.*) While on a moose hunt, about twenty miles above Chemawawin, I saw apparently thousands of these birds on a few dead trees standing out in the marsh. Some of those trees were so crowded by the perching swallows that there seemed literally to be no more room. (*Nutting.*) A few specimens were seen between Athabaska Landing and Lesser Slave river; a few individuals at north end of Methye portage; about half a dozen birds on Isle à la Crosse lake. (*J. M. Macoun.*) This neat and handsome bird frequents the wooded districts up to lat. 60°, making its nest of dried grass and feathers in hollow trees. (*Richardson.*) North to Fort Good Hope, Mackenzie river. (*Ross.*) Breeding in trees at Canmore, within the Rocky mountains, in June, 1891; not uncommon at Revelstoke, on the Columbia, B.C., in April, 1890; breeding in the old trees in the

river valley; common and breeding at Trail and Penticton, B.C., in June, 1902 and 1903; at Fernie and Baynes lake in 1904; common at Kamloops, Spence Bridge, Agassiz and at Hastings, Burrard inlet, B.C., 1889; abundant at Chilliwack, B.C., in spring, nesting in holes in trees. (*Spreadborough.*) More common east than west of Coast range. (*Lord.*) Common summer resident in the coast region; breeds. (*Streator.*) Abundant summer resident at Chilliwack, B.C. (*Brooks.*) Uniformly abundant throughout British Columbia up to 5,000 feet. (*Rhoads.*) Common at Donald, B.C.; and at Vancouver and Victoria in 1894. (*E. F. G. White.*)

Breeding commonly in old woodpecker holes in the tall dead firs at the foot of the mountain back of Sitka, Alaska. (*Grinnell.*) I saw several at Skagway, May 31st, and over the Chilcat marshes, June 1st. Others were seen at Cariboo Crossing, B.C.; others at Lake Marsh and several at Miles Cañon; others again at Fort Selkirk, Yukon district, entering an old dead tree. (*Bishop.*) This species has even a wider range than the barn swallow though not breeding so far to the north owing to its nesting in holes in banks and in trees. (*Nelson.*) On several occasions I saw this swallow flitting about the buildings at St. Michael during the months of August and early September. (*Turner.*)

Breeding Notes.—The sudden dissappearance of a swallow as it alighted on a fence was almost startling until I learned that in some deep hollow, decayed out of the heart of an unsplit rail was a very cosy nest of grass and feathers. It was impossible to dislodge the birds that were sometimes out of arm's reach, but several nests examined the last week in June contained young. I have never found this species nesting in such a location before. (*Dwight.*) This species builds its nest generally in holes in trees 10 to 30 feet from the ground. The nest is made of fine soft grass, well lined with feathers and down. Eggs five, pure white. (*G. R. White.*) From May to July is the nesting time for this species at Scotch Lake, N.B. The nests are placed in hollow fence poles or in old woodpecker nests. The nests are beautifully made of feathers and contain from three to six eggs. When the nest is in a hollow pole the sitting bird has a way of spreading itself so that only dark feathers show when a person looks in at the nest, so that sometimes a person cannot tell if the bird be on the nest or not. (*W. H. Moore.*) A nest

of grass and feathers built in a deserted woodpecker's nest; it may be in any hole in tree or fence post around Ottawa where they breed in numbers. The four or five eggs are laid in May and June. (*Garneau.*)

615. Northern Violet-green Swallow.

Iridoprocne thalassina lepida (MEARNS) A.O.U. Comm. 1902.

Observed only on one occasion ,June 26th, 1874, on the upper Missouri, near Quaking Ash river. (*Coues.*) A common species at Banff, Rocky mountains, breeding in cliffs at Canmore, June, 1891; a large colony was found along the Wait-a-bit which flows into the Columbia at Donald, B.C.; not seen at Revelstoke, but shot in the Eagle pass a little to the west; quite common at Deer Park and Robson in the Columbia valley, breeding in large numbers in the cliffs; observed a few at Henry House, Athabaska pass in July, 1898; first seen, April 9th, 1903, common by the 17th at Penticton, south of Lake Okanagan; a number seen near Fernie, B.C., in 1904 and common, from Midway to Osoyoos lake in 1906; abundant around the cascade at Spence Bridge and at Yale, B.C., May, 1889; a few were observed at Chilliwack, B.C., in the spring of 1901, and a pair found nesting there in 1906; first seen near Victoria, Vancouver island, April 8th, 1893; by May 10th they were very abundant; later in the season they were found breeding at Sooke, Nanaimo and Comox. (*Spreadborough.*) Common in British Columbia. (*Lord.*) Found only at Ashcroft in 1889; breeds. (*Streator.*) An abundant summer resident throughout the province. (*Fannin.*) Common; may breed in the vicinity of Chilliwack. (*Brooks.*) Uniformly distributed throughout British Columbia up to 7,000 feet. (*Rhoads.*) Common at Donald, Columbia river; very common at the mouth of Nicola river, B.C.; and in Stanley park, Vancouver, B.C. (*E. F. G. White.*)

We saw a single male among flocks of bank swallows flying over Fifty-mile river above Miles cañon, July 11th, 1899, and another between White Horse rapids and Lake Lebarge. In July, I took a male from several that we saw near Hootalinqua river and at the Semenow hills, July 20th, Osgood secured a female, finding her nest with four young in a crevice in the cliff; after this we saw colonies of from six to ten individuals and one near White river that must

have contained over fifty; they were nesting about the cliffs as a rule, but several times we saw them enter holes in banks similar to those of the bank swallow, while at Fort Selkirk they were nesting in the interstices between the logs of the cabins; we often met with small colonies until we were within fifteen miles of Circle City, Alaska. (*Bishop.*)

CCXLIII. **RIPARIA** Forster. 1817.

616. Bank Swallow.

Riparia riparia (Linn.) Sharp & Wyatt. 1894.

A pair said to have been seen on Melville island, June 9th, 1820, by Parry. (*Arct. Man.*) Audubon states that it rarely begins to breed before June and lays only once; said to be plentiful on the south shore of Labrador. (*Packard.*) Not common, but a few were seen throughout the trip from Moose Factory across Ungava to the forks of the Koaksoak above Fort Chimo on August 24th, 1896. (*Spreadborough.*) Very rare at Cow Head, Newfoundland, but said to be common about the Bay of St. George. (*Reeks.*)

Not found at Halifax, N.S., but plentiful about the shores of the Bay of Fundy. (*Downs.*) Common summer resident in Nova Scotia. (*H. F. Tufts.*) Not rare in certain localities along Bras d'Or, Cape Breton island, 1898; rather common at Brackley point Prince Edward island, July, 1888. (*Macoun.*) I perhaps do this species an injustice when I say that it is outnumbered by the Savanna sparrow and the junco. I saw colonies of hundreds at several points along the coast, of P.E.I. and as every bluff is crowned by a layer of sand and much of the coast is a continuous bluff the species has unrivalled opportunities for nesting places. (*Dwight.*) A common summer resident at St. John, N.B. (*Chamberlain.*) An abundant summer resident in suitable localities at Scotch Lake, York county, N.B. (*W. H. Moore.*) A small colony was found at the mouth of the Kedgwick, Restigouche valley, N.B. (*Brittain & Cox.*) Tolerably common on the Magdalen islands; breeding on Grindstone island. (*Bishop.*) We met with this species frequently in the Gulf of St. Lawrence but only observed two breeding stations, one at Grand Entry island in the Magdalens and the other at Gaspé, Que. (*Brewster.*) Summer resident around Quebec. (*Dionne.*) A com-

mon summer resident at Montreal. A small colony of these birds used to breed in the bank above the high level reservoir in Mount Royal park, but they deserted the place in 1885; another large colony used to breed in the sand pits at Hochelaga, where I have observed them burrowing, May 12th. (*Wintle.*)

A common and abundant summer resident at Ottawa. (*Ottawa Naturalist,* Vol. V.) Very common in eastern Ontario. (*Rev. C. J. Young.*) Regular summer resident at Toronto, Ont.; an abundant summer resident in the Parry Sound and Muskoka districts. (*J. H. Fleming.*) Not common in Algonquin park, Ont. A few seen breeding in a bank at Whitefish lake; a number seen nesting in the banks of the river above Moose Factory in 1904, last seen on James bay that year, Aug. 12. (*Spreadborough.*) Abundant where suitable breeding places are, even sometimes in thousands in the cliffs along Lake Erie. These birds always make an oval hole for nesting about $1\frac{1}{4}$ inches by $2\frac{1}{4}$, and from one to three feet in length. (*W. E. Saunders.*) A fairly common summer resident at Guelph, Ont. (*A. B. Klugh.*) An abundant summer resident at Penetanguishene, Ont. (*A. F. Young.*)

A small colony was found on Red river, a few miles below Winnipeg, June 14th, 1901, and a large one in a high clay bank on the shore of Oxford lake, near Oxford House, June 30th. Several colonies were seen on Hayes river, a few miles above York Factory. (*E. A. Preble.*) Very abundant at Aweme, Man. (*Criddle.*) Breeds abundantly from Manitoba west to Edmonton. (*Atkinson.*) This species was found everywhere along the 49th parallel where there were cut banks suitable for breeding sites for the digging of holes in which the nests are constructed. (*Coues.*) A somewhat common summer resident in Manitoba. They excavate their nests in the banks of the Assiniboine and Qu'Appelle, and breed in colonies. (*E. T. Seton.*) First individual was seen at Indian Head, Sask.; May 30th, 1892, after this time they became common; they must breed near here as they were seen in numbers up to June 27th when I left; very common on Skull creek, near Crane lake, Sask.; they reached there June 11th, and began breeding in the cut banks of the creek; dug out two nests, but only obtained three eggs, one in one nest and two in the other; one was seen later in the month at the east end of the Cypress hills; in 1895 this species was first

noticed at Old Wives creek, Sask., and afterwards on the prairie wherever there were cut-banks to Frenchman river; it was also seen on the prairie at the west end of the Cypress hills; later it was found to be abundant along the Milk river, St. Mary river and Lee creek, almost to the Rocky mountains; first seen at Edmonton, Alta., May 8th, 1897; breeding in the river bank below the lower ferry by May 22nd; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, in June, 1903; breeding in the banks of Bragg creek, about 40 miles southwest of Calgary, June 25th; breeding in the cut banks of the Bow river, below Banff, in the Rocky mountains, in June, 1891; abundant at Kamloops, B.C., 1889; a flock was seen in the Eagle pass, 5 miles west of Revelstoke, May 13th, 1890, but none in the Columbia valley; breeding in numbers in the bank of the Columbia just below Trail, B.C., in June, 1902; observed first at Penticton, B.C., April 24th, 1903; they only stayed a few days when they disappeared. (*Spreadborough.*)

Very abundant on the Athabaska river between Lesser Slave river and Fort McMurray, lat. 56° 40′, first noticed June 1st; not rare up the Clearwater river to Methye portage; a few birds on Deep river near Isle à la Crosse. (*J. M. Macoun.*) This species is very widely distributed in the Northwest Territories and thousands were observed fluttering at the mouths of their burrows near the mouth of the Mackenzie river in lat. 68°, on July 4th; they are equally numerous in all other localities suited for burrowing. (*Richardson.*) North to Fort Simpson on the Mackenzie river; abundant. (*Ross.*) Found in thousands along Great Slave river to Fort Resolution. Not seen farther, northeasterly. (*E. T. Seton.*) This species is to be met with in considerable numbers during the season of nidification; it builds its nests in holes in sandy or clay banks on Anderson river. (*Macfarlane.*) Scarce at Chilliwack; may breed in vicinity. (*Brooks.*)

Along the arctic coast, as well as the shores of Behring sea, this is an extremely rare visitant, occuring merely as a straggler, during its migrations; on the river courses of the interior, however, it is one of the most abundant, if not the most abundant species of swallows. (*Nelson.*) These swallows are but occasional visitors to the vicinity of St. Michael, where it was only observed during the middle of the summer season. (*Turner.*) More plentiful

east than west of the Coast range. (*Lord.*) Found breeding along the Thompson river at Ashcroft and more abundantly at Kamloops, B.C. (*Rhoads.*) The bank swallow was very common all along the Kowak river, Kotzebue sound, Alaska, from the delta to Hotham inlet, eastward; on our trip up the Kowak from August 12th to 19th, 1898, many colonies of the nesting burrows were observed in the sandy river banks. (*Grinnell.*) We found a small colony nesting at the northern end of Lake Tagish, July 1st, and a larger one on the west shore of Lake Marsh, but we were entirely unprepared for the great abundance of them on Fifty-mile river above Miles cañon. There, almost every bank was honeycombed with their holes; along the rest of the Yukon to Circle city in Alaska, August 1st; after this their presence was only manifested by their deserted holes. (*Bishop.*) Very abundant at Dawson, Yukon district, lat. 64° 15′, breeding in clay banks, July 19th, 1902. (*Macoun.*)

Breeding Notes.—On June 5th, 1902, there was a severe and very cold storm, and at one colony the birds evidently crowded into the partially completed burrows for shelter, to such an extent that those at the end were crushed or smothered to death; almost every burrow had three or four dead birds, rammed hard against the end; one hole had six, jammed into a mass which held together, so strongly that I was able to drag it out by pulling on one wing; some holes contained but one bird, and in these cases the little bodies were not so badly jammed; one of these solitary corpses proved to be that of a barn swallow; I presume these single birds died from the cold, as doubtless had the several found on the ground at the foot of the bank; altogether some 30 or 40 swallows perished in this colony. (*C. R. Harte.*) Nests abundantly in cut banks of islands and gravel banks; the nest is at the end of a double mouthed tunnel and is composed of a few dried grasses; the eggs are three, pure white and the shells are exceedingly thin. (*W. H. Moore.*) Nests dug in sandy banks to a depth of three or four feet and lined with grass and feathers; they breed in colonies in suitable places near Ottawa; the set is five eggs, laid in May and June. (*Garneau.*)

CCXLIV. **STELGIDOPTERYX** BAIRD. 1858.

617. Rough-Winged Swallow.

Stelgidopteryx serripennis (AUD.) BAIRD. 1858.

Probably a rare summer resident at Toronto, Ont. A male was taken, May 16th, 1900, and on June 12th, 1906, I found a pair building in an old kingfisher's tunnel and took the female. (*J. H. Fleming.*) Common along the streams and rivers of Middlesex county, Ont. Data are lacking for other points in the west of the province. I have been unable to ascertain that this bird ever excavates its own nesting holes. Certainly it often uses old kingfisher holes and sometimes a cavity in a brick wall. The holes are not less than three inches in the smallest diameter, and the nests have been found at all depths. Sometimes they are visible from the outside and at others 40 inches from the outside. The nests are bulky and made of straws, weed-stems, roots and small sticks, and are usually lined with green willow leaves, but have not so far been found with a feather lining as is usually the case with the bank swallow. The eggs are larger than those of that species, and are in sets of six or seven, while the bank swallow lays four or five and sometimes six. (*W. E. Saunders.*)

A specimen of this bird, taken near Winnipeg by Mr. Hine, is in the Manitoba museum. (*E. T. Seton.*) Probably occurs at Aweme, Man, but passes for the last. (*Criddle.*) Found breeding at Canmore within the Rocky mountains in June, 1891; shot at Revelstoke, B.C., May 6th, 1890; breeding in the cut banks of the Columbia in many places; large numbers were nesting at Robson in July, 1890; breeding in numbers in a bank on Trail creek, B.C., in June, 1902; seen for only a few days at Penticton in 1903; observed a number near Fernie, B.C. in 1904 and between Midway and Osoyoos lake in 1905; common at Kamloops and Spence Bridge; also breeding in a steep bank near Vancouver, B.C., and at Port Moody, Burrard inlet, and at Port Heney, on the Fraser river; common at Chilliwack, in the spring of 1901; a common summer resident on Vancouver island, breeding at Goldstream and Shawnagin lake; also in holes by the sea shore at Comox and Sooke. (*Spreadborough.*) Much more plentiful east than west of the Coast range. (*Lord.*) Common throughout the province; breeds.

(*Streator.*) Common all over the province; breeds in the banks at Beacon hill, Victoria. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Not common in British Columbia, but of the same distribution as the barn swallow. (*Rhoads.*) Common at Revelstoke, Salmon arm and Agassiz and breeding in the Sea Bird bluffs near Vancouver, B.C., in May, 1897. (*E. F. G. White.*)

Family XLV. AMPELIDÆ. Waxwings.

CCXLV. AMPELIS. Linnæus. 1766.

618. Bohemian Waxwing.

Ampelis garrulus Linn. 1766.

A flock appeared at the Three-mile House, near Halifax, N.S., in the winter of 1864-5, but none have been seen since up to the time of writing. (*Downs.*) Some winters, quite plentiful at St. Stephens, N.B. (*Chamberlain.*) Observed in winter at Harvey, York county, N.B.; rare. (*W. H. Moore.*) Taken at Lorette; a winter migrant at Quebec. (*Dionne.*) A rare winter visitant at Montreal. I have not seen them myself and have no recent record of their occurrence in the vicinity of Montreal. (*Wintle.*)

A winter visitor. It is now many years since this bird has visited us in large numbers. (*Ottawa Naturalist*, Vol. V.) But seldom met with in the county of Leeds, in eastern Ontario. One winter I saw two of them sitting on a rail fence and quite tame. On June 14th, 1899, I found a nest in a rough, rocky part of the country near Charleston lake, Leeds county, that I attributed to this species. It was built in a crotch of a soft maple that grew in a wet swampy place. The nest contained two eggs, measuring 1.10 x .70 and 0.94 x .68. They are noticably larger than any cedar bird I ever saw. They are of the same ground colour, but sparingly spotted with round black spots. The nest was a firm, substantial structure, quite deep and built of rootlets, twigs and fibres; not of grass and straws as most of the cedar birds have been that I have seen. A few were seen at Cataraqui near Kingston, Ont. in February, 1904, and others were observed in the same locality in 1907. (*Rev. C. J. Young.*) Occurs rarely in the Parry Sound and Muskoka districts in winter. Only visits Toronto occasionally. When it does so it

keeps well in the centre of the city. A flight occurred in 1895, when several small flocks spent a month or more in the residential parts of the city. (*J. H. Fleming.*) About 18th February, 1895, Toronto was favoured by a visit, in considerable force, of these beautiful northern birds. While here they fed chiefly on the berries of the mountain ash, and on 20th March I noticed numbers of them fly down to a pool of snow water in Queen's park to drink and bathe or rather splash themselves. I saw four on the 14th December, 1895, and one on 5th March, 1896, with a flock of *A. cedrorum;* and on 31st December, 1896, I saw a fine male taken from a small flock just north of the city. A few remained with us till late in April, and on the 16th of this month I saw them in the tall elms in University grounds, having changed their habits entirely, for they were chasing every luckless winged insect that came in sight, and snapping their bills much after the manner of the flycatchers. Mr. Percival Turner writes me that he saw a small flock in the English Church yard at Belleville on 6th February, 1900. (*J. Hughes-Samuel.*)

Three were observed by Mr. Alfred E. Preble in the stunted spruce woods near Fort Churchill, Hudson bay, on June 25th, 1901. Mr. J. B. Tyrrell speaks of seeing a flock "in a grove of birch trees near the shore of Theitage lake, on their breeding grounds." This lake is situated about 300 miles slightly north of west of Fort Churchill. (*E. A. Preble.*) A tolerably common winter resident in Manitoba. (*E. T. Seton.*) Sometimes common at Aweme, Man., in early winter. (*Criddle.*) An erratic species in Manitoba both as regards numbers and regularity of appearance. Appearing suddenly in large numbers and again being absent for several years. Only noted in midwinter. (*Atkinson.*) An uncommon straggler near Prince Albert, Sask.; shot once only, but twice noted in the spring of 1895. (*Coubeaux.*) One specimen of this species in first plumage was shot on the mountain side adjoining Chief Mountain lake (Waterton lake) at an altitude of about 4,200 feet in thick coniferous woods, where it was in company with numbers of *Ampelis cedrorum.* Being taken on August 19th it was evidently in its summer home. (*Coues.*) One specimen seen at Medicine Hat, Sask., April 11th, 1894, and another on the 14th of the same month; a common species at Canmore, Rocky mountains, in May, 1891, but no nests were seen. [In 1885, the writer shot young birds, on June 27th, at the same place, and had no doubt about nests being in the spruce woods that then

filled the valley.] I believe that a colony, or more than one, of these birds exists on the eastern slope of the Rocky mountains, and doubtless are permanent residents; saw a large flock on Lake mountain, east of the Columbia river, on the International Boundary, B.C., November 3rd, 1902; saw three near the summit of the Rocky mountains in the Athabaska pass, July 11th, 1898; also a flock of about fifty on the Brazeau river, September 24th, said to stay in the mountains all winter. (*Spreadborough.*) This elegant bird has only lately been detected in America, having been discovered in the spring of 1826 near the sources of the Athabaska river by Mr. Drummond, and by myself the same season at Great Bear lake, in lat. 65°; it appears in great flocks at Great Bear lake about the 24th May, when it feeds on the berries of the alpine arbutus and marsh vaccinium; it stays only a few days; none of the Indians knew where it nests, but I have reason to believe that it is in the mountain limestone districts in lat. 67° or 68°. (*Richardson.*) I have been informed by Mr. John Hope, a resident at Fort Franklin on Great Bear lake that these birds build in numbers in the vicinity; but so high up on the trees that the eggs are very difficult to obtain; a specimen was shot at Fort Liard in February which leads me to believe that it is a winter resident. (*Ross.*) An egg and nest of this bird were found in a pine tree on the Anderson river in 1861 in about lat. 68°. Several skins were obtained at Fort Anderson in 1862, but the most careful search failed to produce any nests. (*Macfarlane.*) Shot only east of the Coast range. (*Lord.*) A resident chiefly east of Coast range and Rocky mountain district; a rare winter visitor on Vancouver island. (*Fannin.*) Abundant in some winters in Chilliwack and entirely absent in others; abundant at Lake Okanagan, B.C., in the winter of 1897–98, but less so the next winter; breeds. (*Brooks.*) Saw numbers of large flocks up the Columbia from Golden, B.C., December 17th, 1899; and numbers up the Nicola, February 23rd, 1898. (*E. F. G. White.*)

On August 20th, 1899, the day we arrived at our winter camp on the Kowak, Cook inlet, Alaska, I saw a flock of 50 waxwings in a bunch of spruce trees, but none afterwards. (*Grinnell.*) Three adults were seen at Moose camp, Alaska, October 8th, 1903. (*Anderson.*) There is no record of this bird's occurrence anywhere along the shores of Behring sea on the arctic; in the interior, however, it

is rather common, and specimens were brought to me from Nulato and Fort Reliance on the Yukon; the only examples we have (from Alaska) of the waxwing's nest and eggs were taken by Kennicott at Fort Reliance, Yukon, on 4th July, 1861. (*Nelson.*) This bird is only an occasional visitor to the coast; specimens were obtained from Nulato and Fort Yukon. (*Turner.*) We saw several on Six-mile river, July 1st; two at Lake Marsh, July 7th; one on Fifty-mile river, July 10th; two pairs at Miles cañon, July 11th; and later they were seen in pairs and families at many points on the Yukon to near Circle City; the last were seen August 12th; the birds that we collected had been feeding on the purple berries of some unidentified plant. (*Bishop.*)

The plant referred to above was likely the bog blueberry (*Vaccinium uliginosum*) which was abundant on mossy slopes and sphagnum flats between Dawson and Selkirk. Berries ripe at Dawson, lat. 64° 15′, July 10th, 1902. (*Macoun.*)

Breeding Notes.—Breeding from 150-Mile House northward; I arrived at Quesnel too late for eggs, but kept a sharp lookout for waxwings the following spring at 150-Mile House; I first noticed them there on 11th June, when I came across a small flock and shot one which proved on dissection to be a female about to lay. On returning to the same spot I found the waxwings, consisting of a colony of five pairs of birds, still there, and soon discovered a nest in a Murray pine, near the end of a limb and about 25 feet up; this then (12th June) contained two eggs; on the 15th I took this set, which then consisted of four eggs; the nest was loose and bulky, composed of *Usnea* moss, dry grass and weed stems, and lined with fine material, with a few green aspen leaves in the lining, no doubt to render the eggs less conspicuous; on the 26th June I carefully looked over all the trees in the neighbourhood with my binocular, and found three more nests, all in tall Douglas fir trees; two of these I was able to climb to; each contained four eggs within a few days of hatching; the nests were similar to the first but without the green aspen leaves, probably due to the fact that the nests were better concealed from above; I was unable to reach the fourth nest, nor could I find that of the remaining pair of birds. (*Brooks.*) Early in June, 1893, I saw and heard this bird chattering in the woods on the slopes of Squaw mountain at Banff in the Rockies; my guide

informed me he had several times seen its nest late in July; I offered him a good price for a set of eggs and sure enough he succeeded in finding a nest and four eggs on July 30th, 1893; this nest is composed of fine twigs, roots and grass and was built 20 feet up in a spruce tree; on July 13th, 1894, he found a nest and five eggs, also built in a spruce tree top, while on July 22nd, 1897, he found another nest and four eggs, again built in the top of a low spruce tree, and secured one of the birds. (*W. Raine.*)

619. Cedar Waxwing. Cherry-bird.

Ampelis cedrorum (VIEILL.) GRAY. 1846.

One specimen obtained August 26th, 1860, at Moose Factory by Drexler. (*Packard.*) Saw a flock of about 30 on Moose river June 2nd, 1896; common at Moose Factory, June 13th; none observed further north. (*Spreadborough.*) A common summer resident at Sydney, Cape Breton island, N.S. (*C. R. Harte.*) Common summer resident at Halifax, N.S. (*Downs.*) Fairly common summer resident in Nova Scotia. Once taken by me in winter. (*H. F. Tufts.*) A flock of ten seen in Amherst, N.S., March 1st, 1899. (*Morrell.*) A small flock of these birds reached Sable island, N.S., June 7th, 1902, and another in September of the same year. (*J. Boutelier.*) Seen at Mount Stewart, Prince Edward island, July 11th, 1888. (*Macoun.*) Seen now and again on Prince Edward island, but not common. A few observed at Baddeck, Cape Breton island. (*Dwight.*) A common summer resident at St. John, N.B. (*Chamberlain.*) Tolerably common summer resident at Scotch Lake, York county, N.B.; nesting in orchards and conifers. (*W. H. Moore.*) Rare at Lake Mistassini, Que. (*J. M. Macoun.*) Common in burnt places, Restigouche valley, N.B. (*Brittain & Cox.*) A common summer resident around Quebec. (*Dionne.*) Permanent resident and abundant at Montreal. Breeds in the city and in Mount Royal park. I have found their nests with eggs from June 13th to August 27th. During the winter months flocks of these birds appear in the city to feed on the berries of the mountain ash trees. (*Wintle.*)

Common summer resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) A common species along the St. Lawrence below Kingston, Ont. (*Rev. C. J. Young.*) Resident at Toronto, Ont., irreg-

ular in winter; a common summer resident in the districts of Parry Sound and Muskoka. Usually nesting along the banks of streams. (*J. H. Fleming.*) Abundant at Câche lake, Algonquin park, Ont. (*Spreadborough.*) Common but very erratic around London, Ont. Sometimes seen in winter, and more often in flocks in early spring but the breeders arrive here about May 6th. This is an average date of arrival for 13 years. Seems to hold its own in spite of its frequent fate at the hands of the owners of stolen cherries. (*W. E. Saunders.*) Common summer resident at Guelph, Ont. Arrives about May 29th, and leaves about Sept. 26th. (*A. B. Klugh.*) A common and breeding summer resident at Penetanguishene, Ont. (*A. F. Young.*) Recorded by Baird from Moose Factory, at the foot of James bay, where it was collected by Drexler on Aug. 26th, 1860. Walton Hayden took specimens at the same place in 1881. (*E. A. Preble.*)

Not seen at Pembina, but found at various other points along the 49th parallel, and ascertained to be particularly abundant in the Rocky mountains. (*Coues.*) A common summer resident of woodlands in Manitoba. On July 22nd, 1884, at Portage la Prairie, found a nest of a cedar bird in the woods near the river. It was placed on the branch of a low oak, and was much the same as a specimen taken in the eastern provinces. It contained two fresh eggs, from which I infer that the species is a very late nester here. (*E. T. Seton.*) Common and breeding at Aweme, Man. (*Criddle.*) An abundant and regular breeding species in all the wooded districts of Manitoba and west to Edmonton. Not noted during the winter. (*Atkinson.*) A few seen in the Maple creek timber in 1906. (*A. C. Bent.*) Three individuals were seen at Indian Head, Sask., on June 2nd, and later they became common, they breed here; apparently breeding at Old Wives creek in June, 1895; seen in numbers at Waterton lake the same year; quite common along Peace river, lat. 56°, in July, 1903; common from Edmonton to Athabaska pass in June, 1898; observed a number of individuals at Jumping Pound creek, near Calgary, June 27th, 1897; common at Crow Nest pass the same year ; a common breeding species at Banff, Rocky mountains, in June, 1891; abundant at Deer Park and Robson, on the Columbia, in June, 1890, only commencing to breed on June 20th; common at Agassiz after May 24th, also at Spence Bridge; one pair seen at Kamloops, June 18th, 1889; seen in flocks

in the fall feeding on the fruit of black elder and thorn at Huntingdon, on the International Boundary, B.C., 1901; common along the Skagit river, B. C., Aug. 5, 1905; saw six on the Chilliwack river in 1906; during the summer of 1893 not more than a dozen specimens of this species were seen on Vancouver island, these were at Victoria and Comox. (*Spreadborough.*)

Not uncommon as a summer resident near Prince Albert, Sask. Have seen them in my garden in July. (*Coubeaux.*) Abundant and nesting at Chemawawin and Grand rapids of the Saskatchewan. Nest well made of rather coarse twigs. (*Nutting.*) First seen near Gros Roche portage, Clearwater river, lat. 56° 30′. Common from there to Methye portage, and on the portage, of ten miles, itself. Common in places between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) This species is more southern in its habits than the Bohemian chatterer, and does not pass north of lat. 54° as far as my observations go. Mr. Drummond obtained specimens on the Saskatchewan plains on 27th June, 1827. (*Richardson.*) Common on Vancouver island and along the Fraser and Columbia rivers. (*Lord.*) Common wherever there is an abundant food supply; breeds. (*Streator.*) A common summer resident throughout the province. (*Fannin.*) Tolerably common summer resident at Chilliwack. Not observed at 150-Mile House, B.C., but found breeding at Quesnel, further to the north, where it evidently laid its eggs later than the larger species. (*Brooks.*) A common species in British Columbia, and as erratic in presence and abundance as its eastern counterpart. (*Rhoads.*) Large flocks were seen at Seymour creek, B.C., July 12th, 1891; other large flocks on Sumas prairie, October 10th, 1894, and others again on Sea island in the Fraser river, B.C. (*E. F. G. White.*)

Breeding Notes.—I have often seen the nest in an apple tree in an orchard, occasionally in a hemlock, and frequently in a young maple; it is not usually built very high up in the tree, generally from 10 to 15 feet, but I have seen it as low down as five feet and as high as twenty. This bird is, with the exception of the goldfinch and the field sparrow, our latest builder; I have seen the nest with fresh eggs late in July, and never earlier than the 18th of June; it is built of straws, grass stalks and wood, and lined with hair and feathers; in this respect it presented a marked contrast to the nest I found at Charleston lake, Leeds county, and from the size of the

eggs and location attributed to the last species; eggs of the cedar bird vary considerably. (*Rev. C. J. Young.*)

At Ottawa this species builds in bushes or trees, generally in a crotch or saddled on a limb, a nest composed of twigs, bark, leaves and rootlets; lined with fine grass, hair and wool; eggs 4, slate blue, spotted and blotched with brownish-black. (*G. R. White.*) Nests built in all kinds of trees, never very high up, and made of various materials, such as twigs, grasses, rootlets, leaves, plant-down, wool and hairs; four to six eggs are laid in June, July and August, near Ottawa and at Lake Nomininge 100 miles north of it. (*Garneau.*)

Family XLVII. **LANIIDÆ.** Shrikes.

CCXLVI. **LANIUS** Linnæus. 1758.

621. Northern Shrike.

Lanius borealis Vieill. 1807.

Not common at Fort Chimo, Labrador; breeds there; young taken by the hand and unable to fly, June 30th, 1884; said to be common in the southern portion of Labrador. (*Packard.*) A young female was taken at Lake Melville, eastern Labrador, July 29th, 1891. (*Norton.*) One observed at Moose Factory, June 9th, 1896; also one at Seal lake, Labrador, July 24th; apparently rare. (*Spreadborough.*) Rather rare in Newfoundland and may breed. (*Reeks.*) Rare in Nova Scotia in winter; only single specimens seen. (*Downs.*) An uncommon migrant in Nova Scotia. (*H. F. Tufts.*) One individual seen on Sable island, N.S., in November, 1902, and one, November 16th, 1907. (*J. Boutelier.*) Seen at Sydney, Cape Breton Island, on March 8th, and April 13th and 20th, 1902. (*C. R. Harte.*) An uncommon fall and summer visitant at St. John, N.B. (*Chamberlain.*) A rare permanent resident at Scotch Lake, York county, N.B.; possibly breeds. (*W. H. Moore.*) Taken at Beauport; resident in Quebec. (*Dionne.*) A common winter visitant at Montreal; observed here from October 20th to April 11th, and I believe I saw one as late as May 23rd, 1891, at Côte St. Antoine, on the mountain side. (*Wintle.*)

Moderately common winter resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) This bird is met with in eastern Ontario in fall and winter; it is not common. It seems to prefer the vicinity of towns and villages and preys on the English sparrow. I have seen it as early as October and late in April. The nest I have only met with once and that was in the province of Quebec. (*Rev. C. J. Young.*) Regular winter resident at Toronto, Ont.; I took a nest May 28th, 1887, but this is the only record. A not uncommon winter resident in Parry Sound and Muskoka districts; I have met them at Sand lake, in October, 1899. (*J. H. Fleming.*) A few reach, us every fall at Toronto and spend the winter with us, paying great attention to *Passer domesticus*. On the 29th October, 1896, I watched one for upwards of thirty minutes chasing a bat which had been driven from an old shed; the actions of the shrike were most quaint, as each time he approached the bat he seemed to hesitate to seize it—even granted that he could do so; at last the shrike concluded to leave the uncanny object alone and to seek some more congenial repast. (*J. Hughes-Samucl.*) An occasional winter visitant at Penetanguishene, Ont. (*A. F. Young.*)

Two specimens were taken at Fort Churchill, where the birds were rather common, July 23rd to 30th, 1901, and one was taken and another noted near Painted Stone portage on September 14th. (*E. A. Preble.*) Taken at York Factory, Hudson bay. (*Dr. R. Bell.*) Taken at Fort Churchill, Hudson bay.(*Clarke.*)

A tolerably common spring and fall visitant in Manitoba; saw two at Fort Reliance, September 15th, 1907. (*E. T. Seton.*) Fairly common in winter at Aweme, Man. (*Criddle.*) A regular winter resident in Manitoba. (*Atkinson.*) Very common and regular summer visitor, breeding throughout the district around Prince Albert, Sask. (*Coubeaux.*) An individual seen at Fort McMurray, lat. 56° 40′. (*J. M. Macoun.*) This is by no means an uncommon bird in the wooded districts of the Northwest Territories up to lat. 60°, if not further north. It is most frequent on the banks of the Saskatchewan, where it is usually seen on the borders of the plains, or in the vicinity of a lake, perched upon a tree. (*Richardson.*) North to Fort Good Hope, on the Mackenzie river; not rare. (*Ross.*) A nest of this species, containing six eggs, was obtained at Fort Anderson on 11th June, 1863, afterwards another nest was obtained

more to the north on the Anderson river. (*Macfarlane.*) This species arrives at Indian Head, Sask., in March, or before, and although they became tolerably common in April, all were gone by the 21st of that month; only two pairs were seen at Revelstoke, B.C., in April, 1890; none were seen at Banff the next year, so that it seems to be rare in the Rocky mountains; saw half a dozen at Penticton, B.C., April, 1903; one seen at Sumas prairie, Fraser river valley, October 4th, 1901; rather rare on Vancouver island. (*Spreadborough.*) Tolerably abundant in British Columbia. (*Lord.*) Seen only on Vancouver island, where two immature females were taken in September, 1899. (*Streator.*) The province at large; nowhere common; a few are found throughout the winter on the coast. (*Fannin.*) Common winter visitant at Chilliwack. Tolerably common at Lake Okanagan, B.C., in winter. (*Brooks.*)

The only specimen of this bird from southeastern Alaska was obtained at Fort Kenai, Cook inlet, 19th May, 1869; over the entire portion of the territory from Behring sea, east to the British boundary, and north to the Alaskan mountains, it is a resident, rather common some places but nowhere abundant. (*Nelson.*) This species is found throughout the Yukon district; it is a resident, breeding wherever found in summer. (*Turner.*) An immature bird in the brown plumage was shot at Hope, Cook inlet, Alaska, September, 1900; several others were seen at Homer. (*Osgood.*) During the fall of 1899, this bird (*invictus*) was met with in the Kowak valley, Cook inlet, Alaska. (*Grinnell.*) Two specimens were taken at Homer on September 15th, 1901. Several shrikes were seen on Kenai mountains, Alaska, just above the edge of the timber line. They were found in pairs during the entire summer and no doubt breed there. (*Figgins.*) One adult male at Moose camp, Alaska, October 1st, 1903. (*Anderson.*)

Breeding Notes.—I have only met with this shrike nesting at Toronto once. I took a nest on May 28th, 1887; it contained five eggs and was situated quite conspicuously on the horizontal branch of a maple near the end and about fifteen feet from the ground. The nest was bulky, the outside of sticks and strings, with a few bright labels from meat tins worked in; the lining was of cow hair and felt; the nest was much larger than the white-rumped shrike builds. (*J. H. Fleming.*) At Ottawa I have taken its nest in a low cedar tree.

The nest was composed of sticks, strips of bark, grass and some soft vegetable matter, lined with grass. Eggs, four; greenish-gray, very thickly spotted with reddish-brown and purplish. (*G. R. White.*) I met with this bird breeding some years ago on the Island of Montreal, Que. The nest, built in a large thorn bush that grew among some elms, was nearly finished on the 17th April; on the 26th, it contained seven eggs, incubation commencing. The birds were wild and alighted on the top branches of the elms. The nest was compact and very firm; built of sticks and thorn twigs outside and lined with grass, bits of rag, hair and feathers. At the time the nest was building there was still a great deal of ice in the river, and snow in places two feet deep. (*Rev. C. J. Young.*) On June 11th, 1901, at Crescent lake, Sask., I came across a nest and six eggs of the northern shrike, and secured the parent bird. The nest was built in a fire-killed willow at the edge of a bluff looking out over the prairie and built about five feet from the ground. The nest is a fine specimen, well built, about nine inches in diameter, and composed externally of twigs and willow leaves. The centre is deep and well felted with down and animals' fur, and the eggs are larger than those of the white-rumped shrike. I have another large well-built nest and six eggs that Mr. Wenman took at Spotted lake, northern Alberta, on June 7th, 1897. This nest was also built in a willow seven feet from the ground. (*W. Raine.*)

622*c*. **Migrant Shrike**.

Lanius ludovicianus migrans W. PALMER. 1898.

A rare summer resident at Scotch Lake, York county, N.B.; it bred here in 1900; have seen five young with one pair of adults. (*W. H. Moore.*) This bird is sometimes seen in Quebec. (*Dionne.*) A common summer resident at Montreal; breeds within the city limits. (*Wintle.*) A rare summer resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) This bird appears to be more common or at any rate has been noticed more during the last two years in the neighbourhood of Ottawa. During August and September, 1903, I saw several pairs and their young in March township, and saw one pair building their nest near Janeville, on the Rideau river, in April, 1903. On April the 6th, 1904, saw the first pair for this year, and on April the 18th, saw five pairs along the Rideau, between Cumming's and Billing's

Bridge; have always found them in pairs, and have not as yet seen more than two adults together. April the 21st saw a pair on Rockliffe rifle range. (*E. F. G. White.*) This form is very common along the St. Lawrence, in eastern Ontario; it breeds on Wolfe island, and about Kingston, also Frontenac and eastward through Leeds, and Lanark; I did not meet with it in the county of Renfrew, but it is common in the vicinity of Madoc, Hastings county. (*Rev. C. J. Young.*) Regular summer resident at Toronto, Ont., not very common; reported as common at Beaumaris, Muskoka district, by Mr. Taverner. (*J. H. Fleming.*) Fairly common in former years but less so now; still it will be found every mile or two along the country roads; leaves us early in the fall; September 18th being the date of the latest observations; extends into the Bruce peninsula, where it is not common; raises two broods annually. (*W. E. Saunders.*) This was a common summer resident at Guelph, Ont., a few years ago, but has been decreasing in numbers for the past three years; this year (1903) it was very scarce; arrives about March 26th, and leaves about August 18th. (*A. B. Klugh.*)

Breeding Notes.—I took a nest of this bird containing one egg, May 20th, 1883, at Hochelaga, which was built in a thorn tree; I visited the same place the following month, June 3rd, and found another nest built by the same species in a thorn bush close to the first, but some one had lodged a big stone in this nest; I also found a nest of this species, May 24th, 1888, at Laprairie, built in a bush alongside the railroad track, and saw a shrike close to the nest; I found another nest of this shrike, May 30th, 1891, at Hochelaga, built in a thorn tree, containing two eggs, incubated, and June 6th, 1891, Mr. Inglis found two fresh eggs of this bird in what appeared to be an old nest, near the same place. (*Wintle.*) I have found this bird to be the common species of shrike in eastern Ontario, for the most part keeping along the St. Lawrence, apparently not going further north than the county of Lanark; at least I have never seen it in northern Frontenac or in Renfrew county. It is a summer migrant, arriving early in April. I have seen it as early as the 4th; and commonly by the 17th; the nest is commenced about the end of April and usually contains the complement of eggs by the first week in May. If the first nest is destroyed, a second nest is built, and eggs are laid towards the end of May; I have frequently met with the nests; they are common about Lansdowne, Ont., on Wolfe

island, and in the vicinity of Kingston; one nest I found, built in a thorn bush about three feet from the ground, was completed on 29th April; on the 4th May, it contained five eggs, speckled and zoned and smaller than the eggs of *L. borealis*. The old birds were very tame and did not behave in the same way as those of the other species, which latter kept far off and perched high up in the trees; there were no large trees near this nest; May 6th, found a nest in a similar location, containing four fresh eggs, birds were very tame, allowing of my approach within a few feet; April 3rd, 1890, I saw a pair of migrant shrikes, and on the 28th found the nest containing seven eggs in a thorn bush; on the 7th May found another nest with five eggs, incubated, built so low in the thorn bush that I could look into it when standing on the ground. April 18th, 1892, I found a migrant shrike's nest in a thorn bush in a pasture field, which, on the 29th, contained six eggs; May 2nd, 1898, found a migrant shrike's nest in a thorn bush with six fresh eggs; April 6th, 1899, I saw a pair of migrant shrikes, and their nest on the 29th April with six eggs, built as usual in a thorn tree in a pasture field, and no great height from the ground; I could refer to perhaps twenty other instances of this bird breeding as above in thorn bushes in pasture fields the last week of April or first week in May. (*Rev. C. J. Young.*) This bird begins its nest around Ottawa in April, and lays five, six or seven eggs; the nest is built in thorn trees or bushes from four to ten feet high, and is composed of branches, rootlets and strings, with woolly lining united to feathers and hairs. (*Garneau.*) A detailed account of the breeding of this bird in the vicinity of Ottawa, Ont., is given in *The Auk*, Vol. XXII., p. 314, by the Rev. G. Eifrig.

622*a*. White-rumped Shrike.

Lanius ludovicianus excubitorides (SWAINS.) COUES. 1872.

This is the characteristic species of the whole region along the 49th parallel from Pembina to the Rocky mountains. At Turtle mountain, during the last week in July, I found a family of these birds in an isolated clump of bushes. The young, four in number, had just left the nest, which was discovered in the crotch of a bush five or six feet from the ground. The nest proper rested upon a bulky mass of interlaced twigs; it was composed of some white weed (*Anaphalis margaritacea*) that grows abundantly in the vicinity, matted together with strips of fibrous bark. (*Coues.*)

Common summer resident of half-wooded districts in Manitoba. Breeding freely at Carberry, Shell river and Qu'Appelle. (*E. T. Seton.*) A regular and common breeding species in Manitoba generally and noted along the G.T.P. Ry. in 1906, west to Edmonton, Alta. (*Atkinson.*) Formerly common but now rather rare at Aweme, Man. (*Criddle.*) First seen at Indian Head, Sask., on May 16th, 1892, they were never common; a few breed there, as they were seen up to the end of June; first seen at Medicine Hat, Sask., on May 14th, 1894, later they became common and doubtless bred in the river valley; apparently breeding near Pend d'Oreille, on the Milk river, Alta., July 10th, 1895; observed a pair on May 18th, 1897, at Edmonton, Alta., building a nest in a clump of willows; I unfortunately shot the female; nest nearly finished, composed of weeds; observed one at Midway, B.C., April 6th, 1905. (*Spreadborough.*) This is a more southern bird than *Lanius borealis* and does not seem to advance further north than lat. 54°. Its habits are precisely similar to the other, and its food, which was grasshoppers, the same. They are numerous on the plains. Mr. Drummond found a nest in a willow bush, in the beginning of June, which was built of twigs of *Artemisia* and dried grass and lined with feathers. (*Richardson.*)

622*b*. **California Shrike.**

Lanius ludovicianus gambeli RIDGW. 1887.

One taken in April, 1888, at Chilliwack, Fraser river valley, B.C., 1888. (*Brooks.*) This specimen is referred here on the authority of Mr. W. Brewster.

FAMILY XLVIII. **VIREONIDÆ**. VIREOS.

CCXLVI. **VIREOSYLVA**. BONAPARTE. 1838.

624 **Red-Eyed Vireo.**

Vireosylva olivacea (LINN.) BONAP. 1850.

One specimen received in Copenhagen from Greenland in 1844. (*Arct. Man.*) Very abundant all down the Moose river; not observed further north than Moose Factory. (*Spreadborough.*) Common in Nova Scotia in summer. (*H. F. Tufts.*) A common summer

resident at Halifax, N.S. (*Downs.*) One individual seen on Sable island, N.S., on September 30th, and one on October 8th, 1902. (*J. Boutelier.*) Many old nests noticed at Sydney, Cape Breton island; first seen May 18th, 1902. (*C. R. Harte.*) Observed at Baddeck and Margaree, Cape Breton island, July, 1898; in woods, Union Road, Prince Edward island, July 5th, 1888. (*Macoun.*) A common and in a few localities abundant bird, here as elsewhere a tireless songster. It prefers deciduous trees, particularly large maples. (*Dwight.*) Common summer resident in the interior of New Brunswick, but only seen at St. John in the migrations. (*Chamberlain.*) Common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Common in Restigouche valley, N.B. (*Brittain & Cox.*) Taken at Beauport; not rare around Quebec. (*Dionne.*) An abundant summer resident around Montreal. Breeds in the city and in Mount Royal park; I have found nests from June 6th to August 13th, and observed them here from May 11th to October 6th. (*Wintle.*)

A common and abundant summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) A common summer resident in eastern Ontario. (*Rev. C. J. Young.*) Regular summer resident at Toronto, Ont. A very common summer resident in Parry Sound and Muskoka districts of Ontario. (*J. H. Fleming.*) Breeding in Draper township, Muskoka, Ont.; abundant everywhere in Algonquin park, Ont.; a pair nested in a mountain ash near the buildings at Câche lake; the nest is made chiefly of birch bark; I watched them building, they always stopped work as soon as the sun was well up; it seemed to get too warm for them as the tree was in the open; very abundant all down the Moose river and north to East point on the east coast of James bay. (*Spreadborough.*) Very common summer resident at Guelph, Ont. Arrives about May 10th and leaves about September 23rd. (*A. B. Klugh.*) A common summer resident; at Penetanguishene; breeds in the hardwood woods; nests are quite common. (*A. F. Young.*)

Abundant about Lake Winnipeg, at Norway House, and between Norway House and Oxford House. In the vicinity of Oxford House its song was heard almost continually. After leaving that point we heard nothing more of the bird. (*E. A. Preble.*) Abundant at Pembina, where it was breeding in June and again on the upper

Missouri. (*Coues.*) Common at Aweme, Man. (*Criddle.*) Abundant summer resident of woodlands in Manitoba, and breeds in suitable places. In July, 1883, a nest was taken which contained one bird ready to fly, another half grown and an egg which was near being hatched; the nest was composed outwardly of wasp-nest paper. Common about Fort Resolution. (*E. T. Seton.*) Abundant at Grand rapids of Saskatchewan. Breeding at Chemawawin. One of the most conspicuous songsters in the country. (*Nutting.*) A common but irregularly distributed species from Manitoba west to Edmonton, Alta. (*Atkinson.*) First noted at the Grand rapids of the Athabaska; common down the river to Fort McMurray; common up the Clearwater to Methye portage; very common between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) One seen by Bishop near Maple creek, Sask. (*A. C. Bent.*) This species was shot at Cumberland House, on the Saskatchewan, 2nd June, 1827. (*Richardson.*) North to Fort Simpson, on the Mackenzie river; rare. (*Ross.*) First seen at Indian Head, Sask., June 7th, 1892; soon after, they became common, and began to breed; the first arrivals at Medicine Hat, Sask. were on May 19th, they never became common before I left for Crane lake; a pair seen at Old Wives creek, Sask., May 29th, 1895; another pair seen at Medicine Lodge, on Rocky creek, south of Wood mountain, June 14th, 1895; first seen May 13th, 1897, at Edmonton, Alta., on June 3rd found a nest in a small alder tree about ten feet from the ground, the nest had three of its own eggs and one cowbird's egg; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, in June, 1903; common from Edmonton to Athabaska pass; also in the valley of McLennan river, B.C., in June, 1898; seen in the Crow Nest pass, July 29th; rather scarce at Banff, Rocky mountains, in June, 1891, breeding in the Bow valley; breeding in the Columbia river valley at Robson in June, 1890, nest in the fork of a tall shrub; quite common near the International Boundary, between Trail and Kettle river, B.C., in the summer of 1902; a few seen at Osoyoos lake and along the Similkameen river, B.C., in 1905; seen and heard at Kamloops and Agassiz, B.C., May, 1889; common at Chilliwack in the spring of 1902, and seen along the river later in the summer. (*Spreadborough.*) Common at Ashcroft and abundant at Ducks. (*Streator.*) The most abundant vireo both east and west of the Coast range in B.C. (*Brooks.*) East of the Coast range this species is commonly distributed, and a few were found at Lake La Hâche, B.C. (*Rhoads.*)

BREEDING NOTES.—A nest taken by me was a neat cup suspended by the brim in the embrace of a forked twig. It was built of strips of bark, pine needles, pieces of wasps' nests and paper. Apparently agglutinated with the saliva of the bird, and lined with grass. Eggs, three to five; pure white, marked with fine dark reddish-brown spots toward the larger end. (*G. R. White.*) This species lays two or three eggs during June in its swinging nest, which is generally placed in a sapling maple. A few nests have been found in conifers. (*W. H. Moore.*) This species builds a suspended nest, cup-shaped, the brim attached to a small horizontal fork at the end of a branch, from two to thirty feet from the ground. The nest is made of strips of thin, flexible bark, the outside ornamented with the white bark of the birch, and the inside lined with hair-like roots, fine leaves or very small twigs. Nesting season in June. Three or four eggs are laid. Nests taken at Ottawa and at Lake Nomininge, 100 miles north of Ottawa. (*Garneau.*)

625. Yellow-Green Vireo.

Vireosylva flavoviridis flavoviridis CASSIN. 1851.

One specimen of this species was taken at Godbout, on May 13th, 1883, by Mr. Comeau. (*Dionne.*)

626. Philadelphia Vireo.

Vireosylva philadelphica CASSIN. 1851.

One individual obtained from Moose Factory, James bay, June 2nd, 1860, by Drexler. (*Packard.*) A rare summer visitor around Ottawa. (*Ottawa Naturalist*, Vol. V.) I have met with this bird two or three times. Once I found the nest close to Lansdowne station, in Leeds county, Ont.; this was in June, 1896. It was built in a bush of *Spiræa salicifolia*, was prehensile like the other vireo's, but not so neatly or closely constructed. It contained one vireo's egg and two cowbird's. The egg is identical with, but smaller than that of the red-eyed. This nest was in a damp pasture field, where there were swampy places overgrown with alders and *Spiræa*. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont., not very common. A not uncommon bird in the Parry Sound district. I believe they breed as they are always paired by the middle of May. (*J. H. Fleming.*) This bird so closely resembles others of its family that

it is difficult to decide as to its relative abundance at Toronto. I seldom fail to see one or more specimens each season. (*J. Hughes-Samuel.*) A regular migrant at London, Ont., though never yet found to be common. Two or three are all that any one observer, will usually note in one migration. (*W. E. Saunders.*) Seen as a passing migrant at Guelph, Ont. (*A. B. Klugh.*)

A peculiar song heard on Hill river, Keewatin, July 8th, was probably the song of this species, but I was unable to secure the bird. (*E. A. Preble.*) Although only two specimens were taken, it undoubtedly breeds about Pembina on the 49th parallel, in the heavy timber of the river bottoms, but I was not so fortunate as to discover its nest, a circumstance the more to be regretted, since neither the nest nor eggs have yet come to light. (*Coues.*) Very rare at Aweme, Man., may breed. (*Criddle.*) An abundant breeding species in the wooded districts of Manitoba. (*Atkinson.*) Summer resident of thickets in Manitoba; nest found on Duck mountain. (*E. T. Seton.*) One was secured by Dr. Bishop in the Maple creek, Sask. timber on June 8th, 1906, in the great wave of migrants that passed through on that day. (*A. C. Bent.*) Not uncommon and breeding at Edmonton, Alta., in May, 1897. Not observed in any other locality west of Manitoba. (*Spreadborough.*)

Breeding Notes.—On June 9th, 1884, near Fort Pelly, on the upper Assiniboine, I found a vireo nesting in a small bluff of poplar and willow; the chosen site was in the twigs of a willow some ten feet from the ground; the nest was the usual suspended cup formed of fine grass and strips of birch bark; on the ground immediately below it was another nest of precisely the same make and materials; intending to take this with me on my return I hung it in the tree, but when I came back I found it on the ground, it was again hung as before, and again thrown down, although it had been firmly attached to a twig; this happened several times so that there was little doubt that it was the vireo's doing, but why? I cannot imagine. On June 13th, the vireo began to sit on her four eggs; I shot her and found her to correspond exactly with Coues' description of *philadelphica*, except that the yellow on the breast was quite bright; the eggs closely resembled those of the red-eyed vireo, but were destroyed by an unfortunate accident before they were accurately measured. (*E. T. Seton.*) At Crescent lake, Sask., June 11th,

1901, I found the nest and four eggs of this species; nest of fine strips of bark, grass and fine roots, built in a poplar tree; at Long lake, Manitoba, on June 12th, 1894, I found a nest and four eggs of this species suspended to the branch of a willow, six feet from the ground. (*W. Raine.*)

627. Warbling Vireo.

Vireosylva gilva (VIEILL.) CASSIN. 1851.

A common summer resident at Halifax, N.S. (*Downs.*) Not uncommon at Calais, on the boundary of New Brunswick. (*Chamberlain.*) A rare visitant in summer at Quebec. (*Dionne.*) A scarce transient visitant at Montreal; I have met with only two specimens of this species, which I took on Montreal island. (*Wintle.*)

An abundant summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) A common summer resident, nesting high up in maple and elm trees, in eastern Ontario. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont.; not common. I have taken this species several times at Emsdale, Muskoka district, in May; Mr. Taverner has taken the species at Beaumaris, Muskoka. (*J. H. Fleming.*) Abundant along the city streets in London, Ont., but somewhat less so in the country; eggs usually four, but sometimes only three; nests always high up, not less than twenty-five feet from the ground, while the red-eyed vireo seldom builds higher than eight feet and usually less; the male bird takes his share of the work of incubating, and sings freely while sitting. (*W. E. Saunders.*) Common summer resident at Guelph, Ont.; prefers city shade trees and orchards to the bush; arrives about May 8th, leaves about September 20th. (*A. B. Klugh.*) Observed in abundance at Pembina, on the 49th parallel, and again found at the opposite extremity of the line, the specimen captured in the Rocky mountains, being probably the slight variety *swainsoni;* at Pembina the warbling vireo was in full song and breeding in June; a nest found on the 11th of that month was empty; but in this latitude few of the small insectivorous birds appear to lay before the third week in June. (*Coues.*) Summer resident of woodlands in Manitoba; common on the south slope of Riding mountain and west side of Duck mountain. (*E. T. Seton.*) Rather rare at Aweme, Man., but not uncommon at Stockton, Man., and at some other points. Nests high up in tall trees. (*Criddle.*) Next to the red-eye this is the most abundant of the vireos in the west. Noted

everywhere along the Grand Trunk Pacific Railway in 1906, from Manitoba to Edmonton, Alta. (*Atkinson.*) First seen at Indian Head, Sask., June 6th, 1892, after this date it became common and commenced to breed; first arrivals at Medicine Hat, Sask., May 17th, 1894, evidently intending to breed; seen along Old Wives creek, Sask., in June, 1895; along St. Mary river and at Waterton lake, in Alberta, in July, 1895. (*Spreadborough.*) Some of the western references probably should go under the next variety.

627*a*. **Western Warbling Vireo.**

Vireosylva gilva swainsonii (BAIRD) RIDGW. 1875.

Common from Lesser Slave lake to Peace River Landing, lat. 56° 15′ in June, 1903; first seen at Edmonton, Alta., May 8th, 1897, breed in the vicinity; observed from Edmonton to McLeod river in poplar woods in June, 1898; not rare in foothills from Calgary south to Crow Nest pass; a common species at Banff, Rocky mountains, breeding in the trees in the valley; shot at Revelstoke, B.C., on May 6th, 1890, after which they became common, also at Deer Park and Robson late in June, 1890; observed several at Trail near the International Boundary, in 1902, not very common; common near Fernie, B.C., in 1904 and west of Midway in 1905; this species is rare at Kamloops, but not uncommon at Agassiz, Port Heney and Hastings, B.C.; common at Chilliwack, B.C., in the spring of 1901, a few were also seen at McGuire's further up the river; a common summer resident on Vancouver island; common at Victoria, Sooke and Comox in July, 1893. (*Spreadborough.*) North to Fort Simpson on the Mackenzie river; rare. (*Ross.*) Very numerous everywhere; breeds. (*Streator.*) East and west of coast range; common summer resident. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Collected west of Rocky mountains in British Columbia. (*Rhoads.*)

CCXLVII. **LANIVIREO** (BAIRD). 1858.

628. **Yellow-throated Vireo.**

Lanivireo flavifrons (VIEILL.) LAWRENCE. 1868.

A rare summer resident at Montreal; Mr. W. W. Dunlop, observed this species paired in Hochelaga woods, and shot two specimens

there May 20th, 1883. (*Wintle.*) A summer migrant in Newfoundland. (*Reeks.*) A rare summer visitor around Ottawa. (*Ottawa Naturalist*, Vol. V.) I noticed one specimen of this species at Rockport, Leeds county, Ont., which appeared to be nesting in a large hickory tree near the St. Lawrence river. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont.; rare. One example taken at Beaumaris, Muskoka district by Mr. Taverner. (*J. H. Fleming.*) I have only come across this bird in limited numbers and then only during the spring and fall migrations. (*J. Hughes-Samuel.*) Fairly common everywhere near London, Ont. Not observed in North Bruce. (*W. E. Saunders.*) A passing migrant at Guelph, Ont. Not common; seen about May 12th, and again about September 2nd. (*A. B. Klugh.*) A rare summer resident in Manitoba; July 19th, 1884, Miller Christy brought me a specimen of a yellow-throated vireo from Moose Jaw, Sask. (*E. T. Seton.*) Very rare at Aweme, Man. (*Criddle.*) I have noted only two or three in Manitoba in ten years. (*Atkinson.*) Found breeding at Yorkton, Sask., June 1st, 1901. (*W. Raine.*) We have not seen Mr. Raine's specimens and must consider this reference to be doubtful.

Breeding Notes.—On the third of June, 1906, I discovered in a birch tree near Ottawa a nest of the yellow-throated vireo containing two eggs. Both parent birds were around the nest. It was placed 20 feet up and was made of thin bark with wasps' nest and spiders' webs. All the brim was ornamented with lichens and the lining was of thin grass. Outside diameter 3.50 inches by 2.50 inches high; inside diameter 2 inches by 1.50 inches. I took the bird, the nest and four eggs on the 6th of June. The eggs are creamy white spotted with reddish brown. (*Garneau.*)

629. Solitary Vireo.

Lanivireo solitarius solitarius (Wils.) Allen. 1869.

Fairly common in Nova Scotia from May 10 to Oct. 1. (*H. F. Tufts.*) Not rare at Baddeck and Margaree, Cape Breton island, July, 1898; seen at Hunter river, Prince Edward island, July 2nd, 1888. (*Macoun.*) At Souris, Prince Edward island, one day I was attracted by the song of this bird and soon saw the performer. (*Dwight.*) A rare summer resident at St. John, N.B. (*Chamberlain.*) Observed only at one point in the valley of the Restigouche

river, N.B. (*Brittain & Cox.*) A tolerably common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) On June 23rd, heard a male singing at Macnain cove, Cape Breton island. (*Brewster.*) I noticed an example of this species on the Magdalen islands in June ,1897, and have no doubt it breeds there. (*Rev. C. J. Young.*) Taken at Beauport; not uncommon around Quebec. (*Dionne.*) A rare transient visitor at Montreal. I have met with only two examples of this vireo in this district. (*Wintle.*)

A moderately common summer visitor around Ottawa. (*Ottawa Naturalist*, Vol. V.) Regular migrant at Toronto, Ont. Not uncommon in the districts of Parry Sound and Muskoka in May. They probably remain to breed. (*J. H. Fleming.*) Not common in Algonquin park, Ont. A few were seen in the spruce woods near Câche lake usually well up in the tops of the trees. (*Spreadborough.*) Not common as a migrant, and not known to breed at London, Ont. (*W. E. Saunders.*) A passing migrant at Guelph, Ont. Not common; seen about April 30th, and again about Sept. 20th. (*A. B. Klugh.*) One (a male) taken at Oxford House, July 3rd, and one heard singing in a swamp bordering Knee lake July 5th. (*E. A. Preble.*)

One specimen of this rather rare species was secured at Pembina, which is probably its northern limit. It was taken in the timber of the river bottom, frequented by three other species of the same genus. (*Coues.*) A rare summer resident in Manitoba. On June 10th, 1884, at Duck mountain, a solitary vireo was observed. (*E. T. Seton.*) Fairly common at Aweme, Man., during migrations. (*Criddle.*) Apparently a rare species in Manitoba as I have not noted over half a dozen specimens in ten years and these were migrants. (*Atkinson.*) One specimen secured at the Grand rapids of the Saskatchewan. (*Nutting.*) First seen May 11th, 1897, at Edmonton, Alta., common in spruce woods by the 21st; doubtless breeding; always seen in or near spruce woods; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, in June, 1903. (*Spreadborough.*) At Clandeboye bay, Lake Manitoba, June 13th, 1894, I found the nest and four eggs of this species about seven feet up in a willow. At Oak lake, Manitoba, May 23rd, 1893, I found a nest and four eggs of this species. It is rather rare in Saskatchewan. (*W. Raine.*)

629*a*. Cassin Vireo.

Lanivireo solitarius cassinii (XANTUS) RIDGW. 1875.

Rather rare at Canmore, but breeding in June, 1891; not uncommon at Deer Park, Columbia river, and found breeding on Pass creek at Robson, B.C.; common in thick woods on the International Boundary between Trail and Kettle river, B.C., in the summer of 1902; common at Elko, B.C., by May 20th in 1904; common from Midway to Lake Osoyoos and between Princeton and Hope summit in 1905; apparently rare in the Fraser valley, only taken at Agassiz and Westminster Junction, 1889; common at Chilliwack, B.C. in the spring, observed young out of the nest by June 5th, 1901; first seen at Victoria, Vancouver island, April 27th, 1893, common by May 5th; apparently common at Comox, Nanaimo, Sooke, and Stubb island on the west coast. (*Spreadborough.*) Sumas and Vancouver island. (*Lord.*) Rare, only two specimens taken, one at Ashcroft, the other at Ducks, B.C. (*Streator.*) East and west of Coast range; summer resident. (*Fannin.*) Summer resident at Chilliwack; not common. (*Brooks.*) This species is represented by specimens from nearly every locality in British Columbia, including Vancouver island, Lac La Hâche and Vernon; it is found in the open timber at higher elevations. (*Rhoads.*)

CCXLVIII. **VIREO** Vieillot. 1807.

631. White-eyed Vireo.

Vireo noveboracensis noveboracensis (GMEL.) BONAP. 1824.

Audubon, Vol. IV., page 148, states that a few were seen in Labrador. (*Packard.*) One shot at South bay near St. John, N.B. (*Chamberlain.*) A single bird was observed for some minutes in full song, and within five or six feet, on September 8th, 1899, along the Humber river, Newfoundland. (*Louis H. Porter.*) Am positive I I saw this species, August 30th, 1901, at Glace bay, Cape Breton island; and that I heard it several times before in the same locality. (*C. R. Harte.*) About two miles from Woodstock, Ont., we have a piece of woodland composed of small cedars with here and there a little grassy glade and some patches of hawthorns and second growth maple; on the 25th April, 1902, I shot in this bush an ex-

ample of this species; this identification has been confirmed by Mr. W. E. Saunders, of London, to whom I have sent the specimen. (*W. D. Hobson* in *The Ottawa Naturalist*, Vol. XVI., p. 163.)

Breeding Notes.—In the first week in June in the year 1898, while skirting the top of Rosedale ravine, at Toronto, I came across this bird nesting in a large beech. The nest was built rather deeper than that of the red-eyed and warbling varieties and was hung in the fork of a limb that reached down to about five feet from the ground; I was able to approach to within six or eight feet before the bird flushed, and so had a good chance of securing it; not being familiar with the white-eyed variety at this time, I was strongly impressed with the white iris, and on returning home it proved to be the positive identification of this bird. (*A. S. Goss.*) Some doubt has been thrown on Mr. Goss' record as this bird usually nests in bushes or small shrubs, but as the nest was found only five feet from the ground the identification may be correct.

632*c*. **Anthony Vireo.**

Vireo huttoni obscurus Anthony. 1890.

This species may be considered a rare visitor to Vancouver island; I secured one near Victoria; this specimen, also two secured by Mr. Maynard in the spring of 1891, near the same place are of this strongly marked race. (*Rhoads.*) This vireo evidently winters at Comox, Vancouver island as I took a specimen on December 4th, 1903. In life it is impossible to distinguish it from a ruby-crest, and like that bird it associates with flocks of chestnut-backed tits. (*Brooks.*)

Family XLIX. **MNIOTILTIDÆ**. Wood Warblers.

CCXLIX. **MNIOTILTA**. Vieillot. 1816.

636. **Black and White Warbler.**

Mniotilta varia (Linn.) Vieill. 1818.

A specimen was obtained at Moose Factory, May 13th, 1860, and also on the 30th by Drexler. (*Packard.*) Quite common at Moose Factory, June, 1896; none seen elsewhere. (*Spreadborough.*) Ap-

parently a common summer migrant in Newfoundland. (*Reeks.*) Common summer resident at Halifax, N.S. (*Downs.*) Common in Nova Scotia from May 1 to Sept. (*H. F. Tufts.*) A common migrant at Sydney, Cape Breton island, N.S. (*C. R. Harte.*) One seen on Sable island, N.S., Aug. 20th, 1904, one on Sept. 12th, 1905, one on Sept. 23rd, 1906 and one on Sept. 27th, 1907. (*J. Boutelier.*) Not rare at Baddeck and Margaree, Cape Breton island, July, 1898; seen at Mount Stewart, Prince Edward island, July 11th, 1888. (*Macoun.*) Occasionally seen or its "wiry" song heard, though not very common. (*Dwight.*) A common summer resident at St. John, N.B. (*Chamberlain.*) Rare on the Magdalens, but very likely breeds. (*Bishop.*) On July 9th a male was heard singing at Fox bay, Anticosti; another was taken a little later. (*Brewster.*) Taken at Beauport; not rare at Quebec. (*Dionne.*) A scarce summer resident but common migrant at Montreal. Observed here from May 3rd to August 22nd. (*Wintle.*) Saw a pair in Compton county, Que., June 5, 1902 which evidently had a nest near by. (*L. M. Terrill.*)

A common summer resident but more abundant during migrations. (*Ottawa Naturalist,* Vol. V.) A fairly common summer resident in the woods of eastern Ontario. I once found a nest in a mossy bank in a large wood, containing four infertile eggs and one young bird on June 29th, 1894, near Lansdowne, Ont. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont.; rare summer resident, breeds; a common summer resident in the districts of Parry Sound and Muskoka. (*J. H. Fleming.*) Not common in Algonquin park, Ont. Only observed two from May 25th to June 15th, 1900. (*Spreadborough.*) Abundant near Toronto and breeds there. On 25th April, 1896, saw large numbers of them. (*J. Hughes-Samuel.*) Near London, Ont., this species is confined to the coniferous swamps where it breeds in fair numbers. (*W. E. Saunders.*) A common summer resident at Guelph, Ont. Arrives about April 28th and leaves about September 12th. (*A. B. Klugh.*)

A single specimen was taken at Pembina where it probably breeds, though the fact was not ascertained. Not found further west. (*Coues.*) This species is widely distributed in Manitoba. It is an abundant species on Duck mountain in that province, in spruce woods. (*E. T. Seton.*) First seen at Aweme, Manitoba, May 12th, 1903, and last was seen August 27th 1903; it was com-

mon on May 12th. (*Criddle.*) Abundant migrant in Manitoba breeding in some localities occasionally. I noted it breeding about Portage la Prairie and in 1906 found it at Birtle, Fort Ellice and Saskatoon. (*Atkinson.*) Saw a few near Maple Creek, Sask., May 29th, 1905, which were doubtless migrating as we saw none later. (*A. C. Bent.*) This seems to be a rare migrant at Indian Head, Sask., it was first seen May 11th and disappeared by the end of the month, not seen further west on the prairie; one individual seen at Peace River Landing, lat. 56° 15′, in June, 1903; first seen at Edmonton, Alta., May 6th, 1897, not very common, seen chiefly in the mixed timber along the river hardly ever seen in poplar woods; a few individuals seen in the foothills south of Calgary. (*Spreadborough.*) North to Fort Simpson on the Mackenzie river; very rare. (*Ross.*) One specimen found dead in the woods at the Grand rapids of the Saskatchewan. (*Nutting.*)

Breeding Notes.—Nest on the ground, composed of bark, grass and leaves, lined with plant down and hair, in woods near Ottawa. Eggs 4-6, creamy-white, spotted and sprinkled with reddish-brown. (*G. R. White.*) This warbler commences to build its nest about May 20th. The full complement of eggs is usually laid by May 28th. On that date in 1906 I found a nest in an upturned root near the Rawdon creek, North Hastings. It was constructed outwardly of leaves and weed stalks, and lined with fibres, finer leaves and hair. Was noticeably deep and cup-shaped and firmly constructed. The bird fluttered to the ground as I stood by the root and tumbled along as though hurt. (*Rev. C. J. Young.*) This warbler is one of the first of the main drove of warblers that arrives from the south. They come early in May and herald their arrival by singing their weak see-see-see-see song. The young are able to be about with the adults by the 10th of July. Although resembling the parent birds, the stripes are not so well defined in their plumage as are those of the parents. The old birds are very alert and watchful when the young are unable to know danger themselves. (*W. H. Moore.*) On the southeast corner of the farm lot that adjoins Wildwood on the north, and but a few rods from the boundary line, in a stretch of low ground, there stands the turned-up root of an old fallen tree, the top of which is over a dozen feet from the level ground. In what was once the "upper" side of this "turn-up" and about half-way in its height, I discovered on the

28th of May a nest containing three eggs which, at the time, I took to be those of a Canadian warbler. Three days after I revisited the site, found the mother bird "at home," and seated on the nest. At my near approach she flushed off and down upon the ground, where with outspread and quivering wings, and the venting of a few notes, she attempted to draw my attention from her treasures. Gazing down on the interesting little creature within a few feet of where I stood, I was not much surprised, though somewhat disappointed, to note that the specimen was of the *M. varia* species, and that it was her nest that was placed before me, and which now contained five beautifully spotted fresh eggs. The cavity in which the nest was placed had been partly excavated, probably by the bird itself; but in order to support the foundation quite a large quantity of dead leaves and strips of bark had been used, and inside of this there was a lining of fine vegetable materials and some animal hair. (*W. L. Kells.*) I have found in small woods, about the middle of June, nests with young warblers able to fly. One of those nests, discovered on the 14th of June, was placed at the foot of a tree under dead branches. The young birds flew away, and in the bottom of the nest was a cowbird's egg covered over as it is in a yellow warbler's nest. It was made of inner bark and leaves, lined with hairs and rootlets. Outside diameter 4 inches and height 2.50 inches; inside diameter 2 inches by 1.75 inches deep. (*Garneau.*)

CCL. **PROTONOTARIA** BAIRD. 1858.

637. **Prothonotary Warbler.**

Protonotaria citrea (BODD.) BAIRD. 1858.

A rare migrant in New Brunswick. (*Chamberlain.*) One specimen taken at Hamilton, Ont., May 23rd, 1888. (*McIlwraith.*) Has been seen at Toronto, Ont., at least once. (*J. H. Fleming.*) I have every reason to suppose that this bird occasionally crosses the St. Lawrence and visits Ontario, I even think it occasionally breeds, for I came across a nest located in the stub of a willow at the "drowned lands," some eight miles north of Gananoque, which contained one egg, and which corresponds with the description of site of nest and authentic egg of this bird; the date was June 10th, 1896. (*Rev. C. J. Young.*)

CCLI. **HELMINTHOPHILA** Ridgway. 1882.

642. Golden-winged Warbler.

Helminthophila chrysoptera (Linn.) Ridgw. 1882.

Seen on the Magdalen islands on June 17 and 30, 1897, evidently breeding; also noted there by Mr. W. E. Beaupré in the early summer of 1904. (*Rev. C. J. Young.*) In June 1903 an individual of this species was observed in the vicinity of Fredericton, N.B. (*W. H. Moore.*) Fairly common summer resident throughout western Ontario; not noted in Bruce county. (*W. E. Saunders.*) I have met with this species on two occasions near Hamilton, Ont.; have also heard of its being noticed at Port Rowan. Dr. Macallum sees it every spring and summer near his residence at Dunnville, Ont. (*McIlwraith.*) By the kindness of Mr. W. Hine, of Winnipeg, Man., I am enabled to record the capture of a golden-winged warbler taken by him near Winnipeg on or about May 27th, 1887. (*C. F. Batchelder* in *The Auk*, Vol. VII, p. 404.) One male noted at Aweme, Man., May 22, 1906. (*Criddle.*) A female taken at Portage la Prairie, May 26, 1905, is the only specimen I have ever seen in the west. (*Atkinson.*)

Breeding Notes.—This species makes its nest largely of leaves and places it on the ground generally among or beside the stems of a shrub. The nest is bulky for the bird and the four or five eggs are small for its size. Quite common in some of the more western counties near Lake Erie. (*W. E. Saunders.*)

645. Nashville Warbler.

Helminthophila rubricapilla rubricapilla (Wils.) Ridgw. 1882.

Obtained twice in Greenland; once at Godthaab about 1835, and again at the Fiskenæs, August 31st, 1840. (*Arct. Man.*) A summer migrant in Newfoundland, but apparently rare. (*Reeks.*) A not very common summer resident at Halifax, N.S. (*Downs.*) Common summer resident in Nova Scotia. (*H. F. Tufts.*) A few specimens seen at Baddeck, Cape Breton island, July, 1898. (*Macoun.*) Rather abundant at Tignish, Prince Edward island, and not met with elsewhere (*Dwight.*) A common summer resident at St. John,

N.B. (*Chamberlain.*) Common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Heard singing in the woods at Gaspé Bay, Que., July 15th. (*Brewster.*) Taken at Charlesbourg and common around Quebec. (*Dionne.*) A scarce transient visitant I have observed two examples of this warbler here, both males, which I shot on the spur of Mount Royal; Mr. Kuetzing says he has found this species common here, and that they breed in the swampy parts of the woods on the Island of Montreal. (*Wintle.*)

A summer resident at Ottawa, Ont.; a nest of this species with four eggs was taken in Dow's swamp, 13th July, 1881; in 1882 the bird was noted as quite common. (*Ottawa Naturalist*, Vol. V.) A not uncommon spring migrant in eastern Ontario. I observed it near Lansdowne, Ont., where a nest with four eggs was found near the St. Lawrence in June, 1893. Have noticed the bird several times near Madoc, Ont., and found its nest in a mossy hummock on the edge of a tamarac swamp, May 25, 1906. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont. A summer resident in Parry Sound and Muskoka districts; breeding in swampy places. (*J. H. Fleming.*) Common in tamarac swamps in Algonquin park, Ont., in June, 1900. (*Spreadborough.*) Very plentiful in spring at Toronto, especially among scattered patches of scrub oak trees where they seem to find palatable diet among the slowly expanding buds; I have not observed these birds in such numbers during the fall migrations. (*J. Hughes-Samuel.*) Often common as a migrant at London, Ont.; this bird is increasing as a summer resident and is to be found now (1906) in many localities near London where none were to be seen five years ago. More common in Bruce county in summer. (*W. E. Saunders.*) Abundant as a migrant in spring, and fairly common in the fall; breeds sparingly at Guelph, Ont.; arrives about May 12th, leaves about September 22nd. (*A. B. Klugh.*)

A rare summer resident of woodlands in Manitoba; on June 11th, 1884, I found a Nashville warbler in full song and evidently breeding. (*E. T. Seton.*) I have only two records of this warbler in Manitoba, both males taken at Portage la Prairie, one May 15, 1905, and one May 19, 1906. (*Atkinson.*) At the south end of Lake Manitoba, near Portage la Prairie, Man., on June 13th, 1894, I took a nest and four eggs of this species; the nest was built at the side of a mossy knoll

in a bluff. (*W. Raine.*) This is a rare species at Aweme, Man.; probably breeding. (*Criddle.*) A single individual of this species was killed in the woods at Cumberland House, on May 15th, as it was hopping among the branches of a tree. (*Richardson.*) North to Fort Resolution on Great Slave lake; rare. (*Ross.*)

Breeding Notes.—Arriving generally about the middle of May these birds are mostly found in young second growth woods. One nest found was placed on the ground in a depression on the side of a mound in a moist bush-grown pasture and was well concealed by overhanging ferns, grasses and weeds, and was composed of thin dried grass stems and moss, and was lined with fruit stems of hair moss. It contained three fresh eggs July 15th. The bird flew from the nest on being discovered and was silent and did not appear for nearly an hour. This species is fairly common here, but at St. John, Mr. Banks informs me they are rare. (*W. H. Moore.*) Found a nest in Compton county, Que., June 12, 1904, deeply imbedded in the yielding side of a mound. It was a slight affair (the surrounding mosses rendering a more substantial structure unnecessary) of withered grasses, moss and rootlets, containing four young a few days old. (*L. M. Terrill.*) A nest containing two fresh eggs of this bird and two cowbird's eggs was found near Ottawa, June 1st, 1899. It was built on the ground by the side of a log in a marshy place, and made with green moss, grass and hairs. The bird left the nest only after the log had been shaken a couple of times; nest 3.50 x 1.50 and 2.10. (*Garneau.*)

645*a*. Calveras Warbler.

Helminthophila rubricapilla gutturalis (Ridgw.) Faxon. 1896.

First seen at Revelstoke, B.C., May 9th, 1890; the birds seemed to come from the west through the Eagle pass and not up the Columbia; came in great numbers on the 13th, but seemed to travel northward; at Robson they were found breeding 1,000 feet above the Columbia on June 26th, 1890; observed throughout the district between Trail and Kettle river, near the International Boundary, quite common at Trail where a nest was taken on May 24th, 1902, it was placed on the ground between two stones, overhung with grass; the nest was made of the inner bark of trees lined with hair

and quills from the western porcupine. (*Spreadborough.*) Common in the Okanagan district of B.C. (*Brooks.*) Two examples were taken at Vernon, B.C., and others were seen at Nelson. They may be considered as neither rare nor abundant in British Columbia. (*Rhoads.*) Taken at Vernon, Lake Okanagan, by Mr. A. C. Brooks in 1898. (*Fannin.*)

646. Orange-crowned Warbler.

Helminthophila celata celata (SAY) RIDGW. 1882.

Of rare occurrence at St. John, N.B., but has never been recorded at Scotch Lake. (*W. H. Moore.*) One example taken at Beauport near Quebec, in 1890. (*Dionne.*) A rare transient visitant at Montreal. I shot a male specimen of this warbler, May 21st, 1890, on the spur of Mount Royal and it is the only one of the kind I have met with here. (*Wintle.*) A casual in the vicinity of Ottawa; a male was shot by Mr. E. F. G. White, Sept. 27th, 1885, near the eastern end of the city. (*Ottawa Naturalist*, Vol. V.) Among the first warblers to arrive in the spring of 1906 at Madoc, Ont. I first saw it searching for insects on the buds of poplar trees that fringe a tamarac and cedar swamp. This was on May 14th. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont., rare; I have records of only eight in eight years. (*J. H. Fleming.*) During several seasons of careful observations I have only once met with a small party of these warblers; this was on 12th May, 1900 when I was fortunate in obtaining two specimens, one of which I was surprised to find on dissecting was a female. The plumage of this bird is very plain and but for the frequency of its call note or "chep" might easily pass unnoticed; and even when its presence is detected it is so remarkably active and darts so rapidly from tree to tree that its capture is by no means certain. (*J. Hughes-Samuel.*) As a straggler I have met with this bird on only two occasions, the latter being on the 11th of May, 1886 when a specimen was taken at Hamilton Beach by Mr. K. C. McIlwraith. (*McIlwraith.*) A regular migrant at London, Ont.; but never common. (*W. E. Saunders.*) A few seen on the east coast of James bay, July, 1904. (*Spreadborough.*) One was taken in a willow thicket at York Factory, July 16th, 1901, and the species was again noted near Pine lake, September 13th and at Duck point, Playgreen lake, September 19th. (*E. A. Preble.*)

Observed during the fall migration, in September, along the Mouse (Souris) river, where it was abundant. (*Coues.*) Common summer resident in woodlands, in Manitoba; evidently breeding in the woods around Carberry. (*E. T. Seton.*) First seen at Aweme, Manitoba, on May 12th, 1903, was common on the 17th and disappeared on September 16th. A common breeding species. (*Criddle.*) This is a rare summer migrant at Indian Head, Sask. It was first seen at Indian Head, May 20th, 1892, and disappeared on the 25th; first seen at Medicine Hat, Sask., May 9th, 1894, common by the 15th, and were all gone by the 20th. (*Spreadborough.*) Common in families of flying young in the Cypress hills, Sask., July 25th, to 30th. No adult males found. (*Bishop.*) North to Fort Resolution on Great Slave lake; rare. (*Ross.*) This is one of the rarest warblers that breeds on the Anderson river where four or five nests were found containing from four to six eggs. The nests were made of hay or grasses, lined with deer hair, feathers and finer grasses, and were found on the ground in the shade of a clump of dwarf willow or Labrador tea. (*Macfarlane.*) Throughout the wooded region of northern Alaska, from the British boundary line west to the shores of Behring sea, and from the Alaskan range of mountains north within the Arctic circle as far as the tree limit, this species is a summer resident. (*Nelson.*) Two individuals of this species were shot among the weeds surrounding the redoubt at St. Michael. They are not common as they were the only ones ever seen at that place. (*Turner.*) Two specimens taken at Ducks were of this form. (*Streator.*) East and west of Coast range; a summer resident. (*Fannin.*) Tolerably common during the migrations at Chilliwack. A scarce summer resident in the Cariboo district, of B.C.; both old and young birds showed typical *celata*. (*Brooks.*) Five specimens from the interior of British Columbia are distinguishable from the coast form which does not appear to cross the Coast range. (*Rhoads.*)

Osgood took an adult male at Cariboo Crossing, lat. 60°, B.C., June 26th, 1899; I took a female and two young 20 miles below Fort Selkirk, July 27th, and a young one near Dawson, August 2nd. Osgood secured an adult and a young one at Camp Davidson, August 5th and another was seen near Fort Yukon, Alaska, August 21st; all taken were in willows or alders close to the water. (*Bishop.*) I saw this species but once, on the 25th May, near our camp on the Kowak, Kotzebue sound, Alaska, but heard it a number of times. (*Grinnell.*)

BREEDING NOTES.—On June 18th, 1900, Mr. C. E. Whittaker, found a nest of this rare warbler at Peel river, within the Arctic circle. It was built in the grass on the ground and contained six eggs; on June 22nd, 1902, Mr. Dippie found a nest and five eggs at Banff, Rocky mountains. (*W. Raine.*) On May 25th, 1906, I found a nest of this species near Madoc, Ont., in a hummock of marsh fern and moss among small tamaracks and cedars and well concealed under the dead fern. The nest was small, of dry grass and moss lined with finer grass. The eggs were five in number, white with a zone of purplish red specks around the larger end. (*Rev. C. J. Young.*) A nest of this species was found on June 13th, 1897, on the edge of a wood in a rather damp situation. This was completely hidden by over-hanging grass and small aspen trees; it was sunken in the ground and was composed of grass built with a few horse hairs. There were five eggs in it almost hatched. Another nest of the same species was found on July 1st near the edge of a large bluff, this was hidden as much as the somewhat scanty vegetation would allow and was hidden from above by young aspens. There were four fresh eggs in the nest which were between 15 and 16 mm. long and 12 mm. wide, they were white, thickly marked about the larger end with very fine slaty-gray and somewhat large brown spots. A third nest examined after the birds had left was in almost exactly the same situation as the first. (*Criddle.*)

646*a*. Lutescent Warbler.

Helminthophila celata lutescens RIDGW. 1878.

Saw one individual at Edmonton, Alta., May 5th, 1897, afterwards the species was occasionally seen so that I think a few remained to breed; breeding in numbers at Banff, Rocky mountains, in June, 1891; shot in Eagle pass, west of Revelstoke, B.C.; breeding in the pass, but not seen east of the Columbia in 1890; only one observed at Trail, B.C., in June, 1902; first seen at Penticton, B.C. in 1903, on April 24th, common by the 29th; first noted at Elko, B.C., May 16th, 1904, and at Sidley, May 13th, 1905, common along the Hope trail in July of that year; abundant in the woods at Hastings, but not so common at Agassiz, B.C., in May, 1889; a few seen at Chilliwack, B.C., in the spring of 1902; and spring of 1906; a common summer resident on Vancouver island; first seen on

April 16th, 1893, and became common in a few days, a nest was taken containing four eggs on May 13th; nest on the ground built of moss lined with dry grass and hair; quite common at Comox and Nanaimo. (*Spreadborough.*)

Five specimens taken at New Westminster and one taken at Mount Lehman on September 15th are typical of the coast form. (*Streator.*) Chiefly west of the Coast range; a very abundant summer resident on the coast. (*Fannin.*) More common than the type; a summer resident. (*Brooks.*) A very abundant summer resident on the Pacific slope of British Columbia. (*Rhoads.*) Rather rare on Queen Charlotte islands, seen twice at Cumshewa inlet. Three specimens taken at Fort Kenai, Alaska, by Bischoff in May, 1869. (*Osgood.*) Common at Haines Mission, Lynn canal, June 1st, 1899. (*Bishop.*) Extending up the Pacific coast this bird is found as a common summer resident of the wooded southeastern shore of Alaska, where it replaces *celata.* (*Nelson.*) Tolerably common about clearings, and in the low growths of firs which border the beaches at the mouths of the streams at Sitka, Alaska. (*Grinnell.*) Four specimens taken at Sheep creek, and four on Kenai mountains, Alaska, in August, 1901. The species was fairly common along all streams in the timber belt even to its highest limits where it breeds. (*Figgins.*) Two adults taken at Seldovia, Alaska and one juvenal at Sheep creek. (*Anderson.*)

Breeding Notes.—Banff, Rocky mountains, June 10th, 1893, in the valley of the Bow river, we flushed a little warbler off its nest and five eggs. This nest was built on the ground amongst short herbage growing at the side of a fallen log. As I wished to secure the parent bird to prove the identity of the eggs we did not molest the nest. Next morning my collector brought me a female orange-crowned warbler he had caught with his hand on the nest we found the day previous, so I took my camera along and photographed the nest and the photo-engraving of this nest is to be seen in Oliver Davies' "Nests and Eggs of North American Birds," page 431. (*W. Raine.*)

647. **Tennessee Warbler.**

Helminthophila peregrina (Wils.) Ridgw. 1882.

Obtained by Drexler at Fort George, James bay, in June and July, 1860. (*Packard.*) Rather common at Stewiacke, but never

seen at Halifax, N.S. (*Downs.*) A rather common summer resident at St. John, N.B. (*Chamberlain.*) A rare summer resident at Scotch Lake, York co., N.B. (*W. H. Moore.*) Very rare in the Restigouche valley, N.B. (*Brittain & Cox.*) Not rare at Lake Mistassini, Quebec. (*J. M. Macoun.*) The only specimen noticed was shot at Fox bay, Anticosti, July 11, (*Brewster.*) Not common summer resident around Quebec; taken at Beauport. (*Dionne.*) A common but transient visitant at Montreal. Mr. Kuetzing has found this species here in May, and common for a week or two in swampy places, and I have shot a few in hedgerows in the fields at Hochelaga in May. (*Wintle.*)

Rare migrant in the vicinity of Ottawa; one was shot on the bank of the Rideau, April 9, 1882, by Mr. G. R. White; another was shot May 16, 1888. (*Ottawa Naturalist*, Vol. V.) On May 18, 1897, I took one of these warblers in a large alder swamp at Emsdale, Parry Sound, Ont., and saw several more in the same place on 22nd May. They continued common till the 26th, when I only saw one. (*J. H. Fleming.*) I have usually heard this bird spoken of as rare, but since I first had the pleasure of its personal acquaintance I have concluded that many observers have passed it over on account of its dull plumage, and in some cases it may have been passed as a *Regulus*, which, in coloration, it somewhat resembles. I believe the bird occurs with us regularly, at any rate in limited numbers; my note dated 22nd May, 1900, reads:—A grand morning, warm and summer-like, a great many warblers in the willows; magnolias very abundant, some of these being so particularly handsome as to give the place quite a tropical effect; I came across an unusually large number of Tennessee warblers singing, or rather chipping merrily away in the early morning sunshine, two of which I secured; there were not less than 25 of this species in one small patch of willow. (*J. Hughes-Samuel.*) Sometimes fairly common at London, Ont., in migration. (*W. E. Saunders.*) One seen at East point, James bay, July 5, 1904. (*Spreadborough.*)

Upon my arrival at Pembina, the beginning of June, I at once perceived that the vernal migration of the present species past this point was about to be concluded, as female specimens preponderated; the species was not observed further west on the 49th

parallel. (*Coues.*) Not an uncommon summer resident in the wooded parts of Manitoba, apparently breeding on Duck mountain. One seen near the eastern end of Great Slave Lake July 20, 1907. (*E. T. Seton.*) Common during migration at Aweme, Man.; possibly breeds. (*Criddle.*) Noted in Manitoba only as a migrant of which it is one of the most abundant. (*Atkinson.*) Abundant in the streets of Winnipeg, May 27, 1903; near Red Deer, Alta., it is the most abundant of all breeding warblers except the yellow. *W. E. Saunders.*)

This is a common migrant at Indian Head, Sask., and very likely breeds; first seen May 31st, and soon became common in willow thickets where it remained to June 15th, when all disappeared; first seen at Medicine Hat, Sask., May 18th, 1894; others were seen afterwards, but they were never numerous; a few seen on Old Wives creek, Sask., late in May, 1895; a common breeding species at Banff, Rocky mountains, in the summer of 1891; common in willow thickets from the mouth of Slave river to Peace River Landing, lat. 56° 15′ in June, 1903; first seen on May 22nd, 1897, at Edmonton, Alta., tolerably common along the creeks by the 28th; no doubt they breed here; common from Edmonton to the Athabaska pass in willow thickets in low grounds and along streams in June, 1898; common in the foothills south of Calgary. (*Spreadborough.*) On May 29th, 1905, I saw a bird within 10 feet of me in the Maple creek, Sask., timber which I was quite sure was a Tennessee warbler, but none were collected. (*A. C. Bent.*) Common at the Grand rapids of the Saskatchewan, where it doubtless breeds. (*Nutting.*) One of the most abundant birds between Athabaska Landing and Lesser Slave river; first noted May 30th; common down the Athabaska river to Fort McMurray, lat. 56° 40′; common up the Clearwater river and at the north end of Methye portage; common between Methye lake and Isle à la Crosse lake; last seen August 10th. (*J. M. Macoun.*) One specimen only was procured at Cumberland House, on the banks of the Saskatchewan, in the latter end of May. (*Richardson.*) North to Fort Simpson on the Mackenzie river. (*Ross.*) I have a nest and four eggs of this bird collected at Fort Saskatchewan near Edmonton, Alta., on June 12th, 1899, by Mr. J. Callaghan; nest in a willow two feet from the ground. (*W. Raine.*) This was a common breeder at 150-Mile House, B.C., where its sharp insistent song was to be heard

from every copse in the partially wooded district. (*Brooks.*) Found only at Cariboo Crossing, lat. 60°, B.C., where I heard four males singing and secured three of them, June 27th and 28th, 1899. They were in comparatively open willow and spruce swamps. (*Bishop.*)

Breeding Notes.—The birds made their first appearance on the 22nd of May at Carpenter mountain, Cariboo, B.C., and were common the same day. From that day I heard their song in almost every clump of trees. A great number drew off to the northward, but a good many remained. They generally frequented the clumps of aspen trees and Norway pines, where the ground was covered with a thick growth of dry fine grass. As I saw no female nor evidence of nesting I gave the birds three weeks and started out to look for their nests on the 15th June. Luckily I soon found a female off her nest and after an hour's watching, during which time I suffered torments from the mosquitoes, she at last dropped down to her nest. On walking up she fluttered out, and flew off some distance, returning shortly with two others of the same species, when I put her off and shot her. A hundred yards further on I came across another female, probably one of the two that returned with the first one. I took up a good position and waited twenty minutes, when she darted down to the ground and disappeared, I went up and was just going to kill her with my little .38 caliber collecting pistol as she fluttered off, when out of the tail of my eye I saw the nest contained newly hatched young; I found another nest the same day by carefully quartering a likely piece of ground, and found several the next week with young also. The nests were always on the ground, sometimes at the foot of a small service-berry bush or twig. They were all arched over by the dry fine grass of the preceding year; this year's growth having just well commenced. The nest is small and loosely constructed, being quite flat; it is composed outwardly of a few leaves, a little moss and a good deal of fine grass, lined only with the latter material. The nest was situated on the ground in, and arched over with dry grass, and no bush or twigs were near. (*J. Parker Norris, Jr.*, in *The Auk*, Vol, XIX, 88.)

CCLII. **COMPSOTHLYPIS** Cabanis. 1850.

648*a*. Northern Parula Warbler.

Compsothlypis americana usneæ Brewster. 1896.

One specimen sent from the southern inspectorate of Greenland in 1857. (*Arct. Man.*) A rare summer resident, occurring inland on hardwood trees, Nova Scotia. (*Downs.*) Common summer resident in King county, N.S. (*H. F. Tufts.*) Infrequently observed on Prince Edward island, and generally in the upper branches of hardwood forest. (*Dwight.*) A rare summer resident at St. John, N.B. (*Chamberlain.*) A tolerably common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Seen near Port Hawkesbury, Cape Breton island, and at Fox bay, Anticosti. (*Brewster.*) Taken at Beauport; rare in the vicinity of Quebec in summer. (*Dionne.*) A common transient visitant at Montreal. Shot a male and two female specimens of this warbler in May, 1890, on the spur of Mount Royal. (*Wintle.*)

A moderately common migrant in the vicinity of Ottawa. (*Ottawa Naturalist*, Vol. V.) A specimen of this species was shot on a currant bush in a garden at Kingston, Ont., in May, 1899. A number observed during migration near Madoc, Ont., on May 4th, 1905. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont. A common summer resident in the Parry Sound and Muskoka districts; they arrive about the middle of May, and for the first two weeks keep to the highest trees. (*J. H. Fleming.*) Not common in Algonquin park, Ont. Nearly always seen up in the tops of trees. (*Spreadborough.*) Abundant in spring and fall at Toronto. The earliest arrivals I have noted being on 5th May, 1896. (*J. Hughes-Samuel.*) A passing migrant at Guelph, Ont. (*A. B. Klugh.*) Of four specimens taken in the Thames valley, in western Ontario, by Mr. Robert Elliott and Mr. W. E. Saunders two are said to be typical of the northern form *usneæ*, the other two not being quite typical of the southern form. (*Robert Elliott*, in *The Ottawa Naturalist*, Vol. XVI., p. 95.)

Breeding Notes.—I have no particular data regarding nesting season, but a nest was found 40 feet up a yellow birch tree composed of a few fine rootlets and feathers worked into a growth of

Usnea that hung below a limb three-quarters of an inch in diameter and about eight inches below the limb. (*W. H. Moore.*)

CCLIII. **DENDROICA** GRAY. 1842.

650 **Cape May Warbler.**

Dendroica tigrina (GMEL.) BAIRD. 1858.

A specimen obtained by Drexler, May 28th, 1860, at Moose Factory, James bay. (*Packard.*) Very rare in Nova Scotia; only one specimen taken at Stewiacke in midsummer. (*Downs.*) Rare; may breed at Grand Manan, N.B. (*Chamberlain.*) Of rare occurrence at Scotch Lake, York county, N.B.; it is known to breed here; one nest was found containing three eggs, placed in a hemlock tree a few feet from the trunk, and about eight feet up. (*W. H. Moore.*) A scarce and transient visitant at Montreal; I shot three male specimens of this warbler and saw others on the spur of Mount Royal, one of which I shot May 14th and the other two May 21st, 1890. (*Wintle.*) This species is rare at Quebec, but two specimens were taken in June, 1884. (*Dionne.*) A rare migrant at Ottawa; have been taken by Mr. G. R. White in 1883, 1885, 1887, and 1888. (*Ottawa Naturalist*, Vol. V.) Met with it on the Magdalen islands in 1897; I have a nest containing two eggs taken there from a small spruce tree about two feet from the ground. Rarely met with in North Hastings county, Ont., during migration. (*Rev. C. J. Young.*)

Correctly described as rare in Ontario; I have previous to the present spring season of 1900, seen only two specimens of this bird, viz.: a male on 19th May, 1898, and a female on 21st May, 1899; but between the 8th and 19th May, 1900, I was fortunate in seeing five males of the species and to hear their song; I had also a chance to observe their habits during their short stay. (*J. Hughes-Samuel.*) Rare migrant at Toronto, Ont., sometimes not uncommon; formerly one of our rarest warblers. (*J. H. Fleming.*) A rare migrant at London, Ont., two or three being the most noted in a single migration. (*W. E. Saunders.*)

Common summer resident along the Red river in Manitoba; not widely distributed. (*E. T. Seton.*) An abundant migrant in most parts of Manitoba but not noted breeding. (*Atkinson.*) A rare species at Aweme, Manitoba. (*Criddle.*) Two specimens were

taken at Medicine Hat, Sask., May 17th, 1894. (*Spreadborough.*) At Long lake, Yorkton, Sask., on June 2nd, 1891, I took a nest and four eggs of this bird; it was built nearly three feet from the ground in a willow. (*W. Raine.*)

652. Yellow Warbler.

Dendroica æstiva æstiva (Gmel.) Baird. 1858.

Specimens obtained by Drexler, July 12th, 1860, at Fort George, James bay. (*Packard.*) Common from Missinabi down the Moose river and up James bay to Richmond gulf; a nest containing four eggs was found on an island in the bay, June 23rd, 1896; none observed on a trip across Ungava; seems to keep along the coast. (*Spreadborough.*) A very common summer migrant in Newfoundland. (*Reeks.*) Very common in gardens around Halifax, N.S. (*Downs.*) Common in Nova Scotia. (*H. F. Tufts.*) Common summer resident at Sydney, Cape Breton island, N.S. (*C. R. Harte.*) One seen on Sable island, N.S., June 4, 1904, and one on Aug. 3; one was seen June 27, 1905, and one Aug. 9. (*J. Boutelier.*) Quite common at Baddeck and Margaree, Cape Breton island, July, 1898; rather rare at Brackley point, Prince Edward island, June, 1888. (*Macoun.*) Rather common on Prince Edward island, and quite as likely to be found among lonely alder bushes as in the trees around houses. (*Dwight.*) An abundant summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Rare, except near the settlements in the Restigouche valley. (*Brittain & Cox.*) Common at Lake Mistassini, Quebec. (*J. M. Macoun.*) Common summer resident on the Magdalen islands. (*Bishop.*) Rather abundant at Fox bay, Anticosti; a few specimens seen at Gaspé bay, Que. (*Brewster.*) A common summer resident at Quebec. (*Dionne.*) An abundant summer resident at Montreal; breeds in the city and Mount Royal park; I have found their nests containing eggs from May 29th to July 7th, and observed this warbler here from May 7th to September 3rd. (*Wintle.*)

An abundant summer resident in the vicinity of Ottawa. (*Ottawa Naturalist*, Vol. V.) Regular summer resident at Toronto, Ont., I took a male at Emsdale, Parry Sound, Ont., on May 27th, 1899, the only one I have seen in Parry Sound; it was not uncommon at Rosseau in 1897, and Mr. Taverner regards it as common at Beau-

maris. (*J. H. Fleming.*) Without doubt, more of this species of warbler remain to breed around Toronto than of any other variety. Practically, they are everywhere in suitable places, and if a youthful enthusiast wants to study bird life he has merely to seat himself near a patch of willows during the merry month of May when he will have a grand opportunity of becoming acquainted with our common summer yellow-bird; I have noted one of these birds at Toronto as early as 18th April, 1899. (*J. Hughes-Samuel.*) Common summer resident at Guelph, Ont.; arrives about May 4th, leaves about Aug. 18th. (*A. B. Klugh.*) Abundant summer resident, breeds in gardens very frequently at Penetanguishene, Ont.; I have seen four nests of this species in a garden of less than half an acre. (*A. F. Young.*) Rather common at Norway House, Oxford House, and York Factory. Specimens taken at these three points have a slightly darker crown than is usual in eastern examples, but are referable to the typical form. (*E. A. Preble.*) York Factory, Hudson bay. (*Dr. R. Bell.*) Also taken at Fort Churchill, Hudson bay. (*Clarke.*)

This abundant and universally diffused species was observed at various points along the 49th parallel from Pembina to the Rocky mountains. (*Coues.*) A very abundant summer resident everywhere in Manitoba, breeding throughout the whole province. (*E. T. Seton.*) Common and breeding at Aweme, Man. (*Criddle.*) First seen at Indian Head, Sask., May 27th, 1892; soon after they became abundant and began to breed in great numbers; first seen at Medicine Hat, Sask., May 15th, 1894; commenced nesting by the 23rd; two nests finished by the 29th and laying commenced; common in all brushy parts of western Saskatchewan, especially at Crane lake and Cypress hills. This is a common species wherever there is brush, and builds indiscriminately in the forks of a rose-bush, a willow or *Elœagnus*; numerous nests were taken at Wood mountain and wherever there was brush across southern Saskatchewan and Alberta to Waterton lake at Chief mountain in the summer of 1895; observed from the mouth of Lesser Slave river to Peace River Landing, lat. 56° 15′, in June, 1903; first seen at Edmonton, Alta., May 12th, 1897; June 14th, two nests were taken in small willow trees; nest very compact, composed chiefly of willow down held together with horse-hair; abundant in willow thickets throughout the trip from Edmonton west to Athabaska pass, in June, 1898;

common in the foothills south of Calgary; quite common and breeding in large numbers at Banff, Rocky mountains, in the summer of 1891; common at Elko, B.C.; very common at Revelstoke and Robson, on the Columbia river, in June, 1890; one nest was taken in the fork of a cottonwood, 40 feet from the ground, on June 21st, 1890, containing four fresh eggs; a few were breeding at Trail, near the International Boundary, in June, 1902; occasional at Kamloops and Spence Bridge, B.C.; a few doubtful specimens at Victoria, Vancouver island. (*Spreadborough.*) Very abundant summer resident in thickets at Prince Albert, Sask.; arriving in May. (*Coubeaux.*) Common at Grand Rapids and at Chemawawin; breeding in thickets. (*Nutting.*) Very abundant throughout the entire wooded regions of arctic America, where it builds on dwarf willows and small scrub pine at a height of a few feet from the ground. (*Macfarlane.*) This species is known throughout the Northwest Territories as far north as the woods extend, or to lat. 68°. It reaches the banks of the Saskatchewan about the third week in May, and Great Bear lake, in lat. 65°, in the beginning of June. (*Richardson.*) North of Lapierre House, on the Mackenzie river. (*Ross.*) Fairly common and nesting at Fort Resolution and thence to the north shore of Great Slave lake, at least as far east as W. long. 109°. (*E. T. Seton.*)

Breeding Notes.—This warbler is very common along the St. John river, near Fredericton. Have never seen them more than a mile from a river or large stream where they nest in low bushes that grow about such places. The nest is seldom over a yard from the ground, and have often seen them within a yard of the highway road. By the first week in June the majority of their eggs are laid, three and four being the number in a clutch. The nest is composed of plant fibres, dried grasses, wool and hair. (*W. H. Moore.*) Nest found in a lilac bush was composed of vegetable substances and down, lined with hair and down, a very compact and neat affair. Eggs 5, grayish or greenish white dotted and blotched with reddish-brown and lilac. (*G. R. White.*) Nests in bushes, conifers and other trees around Ottawa. The nest is placed two to fifteen feet from the ground, and composed of grayish fibres of plants and vegetable down with a few bits of grass bark or feathers. The inside is white when not lined with hair. This warbler often adds a story to its nest to cover up a cowbird's egg laid in the original nest.

(*Garneau.*) This bird builds a neat and compact nest and generally places it high up on the willows or in the forks of a small tree, rose bushes or wolf willow. It is chiefly composed of dead leaves of grasses and carices, and with a thick lining inside of small feathers, hairs and fine cottony wool gathered from the catkins of willows; numerous nests of the above character were found in June, 1895, in southern Saskatchewan by the writer.

652*b*. **Alaskan Yellow Warbler.**

Dendroica æstiva rubiginosa (PALL.) OBERHOLSER. 1897.

West of Coast range an abundant summer resident. (*Fannin.*) Common summer resident at Chilliwack, B.C. (*Brooks.*) Rather rare on Queen Charlotte islands; seen twice in Cumshewa inlet. (*Osgood.*) One specimen taken at Deer Park, on the Columbia river, in June, 1890, belongs to this form; a few seen at Midway, B.C., in 1905 in willow thickets; quite common at Agassiz, B.C., in May, 1889; common in thickets along the Hope trail in 1905; common at Chilliwack, B.C., in spring of 1901; none observed in the autumn; a summer resident on Vancouver island; first seen near Victoria on April 25th, 1893, they were common in a day or two; nesting in willow and alder thickets at Victoria, Comox and Nanaimo. (*Spreadborough.*)

Alaska in general, both along the coast and throughout the interior; and southwest to Vancouver island, migrating southward in winter to California. (*Ridgway.*) This is perhaps the most abundant warbler in Alaska. It is found everywhere in the wooded interior. (*Nelson.*) Specimens of this species were obtained from several localities. It is common at many points on the Yukon river. (*Turner.*) A single adult male taken June 23rd at Sitka, Alaska; and a few others heard previously in the dense firs along Indian river were all noted on this occasion. Yellow warblers, mostly in immature plumage were observed commonly in the Kowak valley, Kotzebue sound, Alaska, in the latter part of August. (*Grinnell.*) I am positive I have often heard the song of this species at Bennett, June 17th-22nd. I took an adult male at Cariboo Crossing June 27th, and heard the song at Lake Marsh. An adult female was taken by Osgood near the Nordenskiold river July 22nd and family parties were often found in the alders and willow thickets

between the Pelly river and Circle City, in the Yukon valley. (*Bishop.*) Three immature males were taken at Kenai Mountains, Sheep creek and Homer, Alaska; found occasionally at the upper edge of timber line on Kenai mountains. (*Figgins.*) One specimen taken at Sheep creek, Alaska. (*Anderson.*)

654. Black-throated Blue Warbler.

Dendroica cærulescens cærulescens (GMEL.) BAIRD. 1865.

Audubon, Vol. II., p. 63, states he found a dead one in Labrador. (*Packard.*) An uncommon summer resident at Halifax, N.S. (*Downs.*) Uncommon summer resident in Nova Scotia. (*H. F. Tufts.*) Seen in woods at Margaree, Cape Breton island, July, 1898. (*Macoun.*) One seen on Sable island, Oct. 7, 1905, and another Sept. 28, 1907. (*J. Boutelier.*) A few were detected at Souris, Prince Edward island. (*Dwight.*) A rare summer resident at St. John, N.B. (*Chamberlain.*) Tolerably common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Taken at Beauport; rather uncommon in Quebec. (*Dionne.*) A common and transient visitor at Montreal. A few probably breed at Montreal. I have seen them from May 4th to October 5th. (*Wintle.*)

A moderately common migrant in the vicinity of Ottawa. (*Ottawa Naturalist*, Vol. V.) I have occasionally noticed the bird in spring and fall in the county of Leeds, Ont. Once I found the nest in June, 1899, in an ash swamp. It was built in a bush of *Spiræa* that grew among ferns and weeds, and was not more than three feet from the ground. The bird was very tame and easily identified. The nest much resembles the nest of the redstart except for location. I have also noticed this bird near Sharbot Lake, Ont., where it breeds in the underbrush of a large wood of maple and beech. Near Madoc I have noticed it among the latest warblers to depart south. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont. An abundant summer resident in the Parry Sound and Muskoka districts of Ontario. I took a nest on June 8th, 1894; it was on the side of a hill in a dense hardwood bush, and was placed on the fallen branch of a dead hemlock, shaded by the horizontal branch of a seedling maple. (*J. H. Fleming.*) Common amongst balsam fir in Algonquin park, Ont., June, 1900. (*Spreadborough.*) Reaching us in the first week in May at Toronto this bird becomes very abundant. The

female of this species occasions probably as much trouble with the novice as regards identification as any of our birds, flycatchers excepted; but the white spot at the base of the primaries is indisputable evidence and when not clearly apparent always shows when the feathers are parted. Found young just from the nest at Havelock, Ont., July, 1894. (*J. Hughes-Samuel.*) Rare summer resident in Middlesex county, Ont., but more common in North Bruce. Fairly common at London, Ont., as a migrant. (*W. E. Saunders.*) Mostly a passing migrant at Guelph, Ont. A few pairs breed. Arrives about May 12th, leaves about Sept. 26th. (*A. B. Klugh.*) Summer resident at Penetanguishene, Ont. (*A. F. Young.*) Mr. Norman Criddle observed a warbler at Aweme, Man., Oct. 17th, 1906, which he believes to be this species. The circusmtances under which it was seen are detailed in *The Ottawa Naturalist*, Vol. XX., p. 189. Mr. Criddle is one of our most careful observers but as the bird was not shot there is still a little doubt about his determination.

Breeding Notes.—This species is common during the spring migrations and a goodly number stay during the summer. The female displays great courage and feigns helplessness and distress, to the utmost degree, when one is near her nest. A nest found July 21st contained three nearly fresh eggs. It was placed two feet up in a small beech bush, well built into the fork of small limbs and was composed of rotten wood fibres, cocoon silk, and scantily lined with white horse hair. (*W. H. Moore.*) A nest with young birds was found on the 4th August, 1902, in a wood near Lake Nomininge, about 100 miles north of Ottawa. It was built in a raspberry bush and made of grass and a few leaves, lined with hairlike roots; nest 3 x 2 and 2 x 1.25. (*Garneau.*) On the afternoon of June 5, 1886, when out in a tract of low, thick underwood, about a mile to the west of Wildwood, I found a nest with one egg, which at first I took to be one of a chestnut-sided warbler, so much did it resemble the nest of that species in form, size, materials of composition and situation. The egg also had a much similar appearance, but the different notes of the female owner of this nest soon attracted my attention, and I waited, a short time till she came out of the thick foliage where she was concealed and approached the more open space where I was standing, then I saw that she was quite a different species, and a more close examination of the nest showed that it was a more compactly formed structure than is usually made by the chestnut-sided

bird, though the eggs of both species are much similar. The scolding notes of this bird soon brought her mate upon the scene, but he seemed more disposed to sport with her than assist to drive off the intruder. Both birds, however, came quite close, and I identified them as a pair of the black-throated blue warbler species. Being anxious to secure this nest and a full set of eggs, I noted the place and returned four days later. Then the female was seated on the nest, and when she flushed off I found that it contained three of her own eggs and one of a cowbird. These I collected and prepared for my cabinet, but they have since passed to the collection of a gentleman in Philadelphia. After I had secured the nest and eggs above described, on my homeward way, I found another nest of the same species. This was also placed in the fork of a small maple twig, about two feet off the ground, and on the outskirts of a thick patch of low underwood, and then contained three young of the bird's own two or three days old, and also a young of the cowbird. I noted in both cases that the old birds on leaving the nests dropped to the ground and made quite a commotion among the dry leaves, evidently with the intention of diverting attention from the nests. (*W. L. Kells.*)

655. Myrtle Warbler.

Dendroica coronata (LINN.) GRAY. 1842.

Three examples taken in Greenland prior to 1860. (*Arct. Man.*) A single example, an adult male, was taken in Godhaven harbour, Greenland, July 31st, 1878. (*Kumelin.*) Audubon, Vol. II., p. 24, found them plentiful in Labrador, with young scarcely able to fly. Drexler obtained specimens July 21st, 1860, at Moose Factory. (*Packard.*) Rather common on the southern half of the coast of Labrador. (*Bigelow.*) A common summer migrant in Newfoundland. (*Reeks.*) Common in Nova Scotia. (*H. F. Tufts.*) The commonest warbler in the vicinity of Halifax, N.S. (*Downs.*) Common summer resident at Sydney, Cape Breton island, N.S. (*C. R. Harte.*) Brought to Sable island in a north west gale, September 30, 1905; seen in numbers, September 29, 1907. (*J. Boutelier.*) An abundant species at Baddeck and Margaree, Cape Breton island, July, 1898; in spruce trees along Brackley point, Prince Edward island, June 29th, 1888. (*Macoun.*) Common on Prince Edward island. Their favorite haunts were clumps of spruces and

firs in partly cleared lands. (*Dwight.*) An abundant summer resident at St. John, N.B. (*Chamberlain.*) Quite common in the Restigouche valley, N.B. (*Brittain & Cox.*) Common spring migrant, but is rather rare in summer. Breeds at Scotch Lake, York co., N.B. (*W. H. Moore.*) A common resident on the Magdalen islands. (*Bishop.*) Common migrant at Quebec. A few may breed. (*Dionne.*) An abundant transient visitant at Montreal; observed here from May 3rd to 19th, and from October 8th to 10th. (*Wintle.*)

An abundant migrant and possibly breeds. Has been seen all through the summer and probably breeds in the Mer Bleue. (*Ottawa Naturalist*, Vol. V.) Common in central Ontario during migration. A nest I found at Calabogie lake was built in a cedar, near the top, about ten feet from the ground, and contained four fresh eggs on May 29th; it was composed of twigs, roots, etc., lined with hair inside. It also breeds at Sharbot Lake, Ont., where it shows a preference for the neighborhood of water and nests in small cedars. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont., not common in the spring but abundant in the fall. Fairly common in the spring in Parry Sound and Muskoka districts, Ont. (*J. H. Fleming.*) Rather common in summer in Algonquin park, Ont. Saw a pair building in the top of a hemlock tree near Câche lake. They failed to complete it and moved to another tree as they were seen there all summer. (*Spreadborough.*) Probably the first warbler to reach us in the spring and last to leave us in the fall. I found young birds just out of the nest on a small island in Belmont lake, near Havelock, Peterborough county, Ont., June 28th, 1895. (*J. Hughes-Samuel.*) A migrant only, in Middlesex county, but has been observed in several localities in North Bruce in the month of June. (*W. E. Saunders.*) Usually abundant during migrations at Guelph, Ont., but almost entirely absent in the spring of 1903. Seen from about April 30th to May 12th and from September 6th to 8th. (*A. B. Klugh.*)

One was seen in company with kinglets and chickadees in the spruce woods bordering Hill river, September 2nd, 1901. (*E. A. Preble.*) Not observed on the 49th parallel until about the middle of September, when during the fall migration it made its appearance in abundance along the Mouse (Souris) river in company with

the snowbirds and other species just come from the north. (*Coues.*) An abundant migrant; a few breed in Manitoba, at the Duck mountains where I shot a male on June 10th, 1884. (*E. T. Seton.*) First seen at Aweme, Manitoba, April 20th, 1903, became common by May 14th, 1903, last seen October 10th. (*Criddle.*) One of the most migrating species in Manitoba, the first to come and the first to leave. (*Atkinson.*) This bird arrives on the banks of the Saskatchewan at Prince Albert in May and breeds in thickets. (*Coubeaux.*) Abundant at Grand rapids and Chemawawin; breeding in the latter place. (*Nutting.*) I have the nest and four eggs with the parent bird that were collected at Red river, Alberta, June 14th, 1898, by Mr. W. Wenman. (*W. Raine.*) This is a common migrant at Indian Head, Sask.; it was first seen on April 25th, and the last ones disappeared on June 2nd, 1892; first seen on April 30th, 1894, at Medicine Hat, Sask. Those shot were all males. By May 11th they were very abundant in willow thickets, but were all gone by the 18th; observed two at the upper crossing of the Lob-stick river, Alta., June 17th, 1898, where they were breeding; seen in large flocks at Henry House, September 2nd; a spring migrant at Banff, Rocky mountains in 1891; arrived at Revelstoke, B.C., April 24th, 1890, but soon disappeared; a few seen at Trail, near the International Boundary, in 1902, but all soon disappeared. (*Spreadborough.*)

This bird arrives on the banks of the Saskatchewan about the middle of May and continues there all summer, frequenting willow thickets and the borders of streams and lakes, where *Myrica Gale* grows in abundance. (*Richardson.*) North to Lapierre House, on the Mackenzie river. (*Ross.*) This warbler is not numerous on the Anderson river, where some thirteen nests were found built on low spruce trees and a few on the ground. It lays from four to five eggs. (*Macfarlane.*) On September 3rd, 1907, a small flock appeared at Last woods, Artillery lake. This may be a northward fall migration. (*E. T. Seton.*)

Breeding Notes.—This bird occasionally breeds in central and northern Ontario, and commonly north of the Ottawa river. It is recorded as doing so at Listowel, Ont., by Mr. Wm. L. Kells. In the early spring and again in the fall when on migration it is one of the commonest of the warblers; the first nest I found was in the

spring of 1889, on 29th May, on the bank of Calabogie lake, Renfrew co.; it was built near the top of a cedar against the stem, about eight or nine feet from the ground and close to the water, and on that date contained four fresh eggs; I easily identified the bird by its white throat and other characteristic markings; though I often saw the bird in the interval I did not again meet with its nest until June 11th, 1902, when I found a nest in a second growth of white pine on an island in Gull lake, Frontenac co., Ont.; at this date it contained three young birds, recently hatched; on the 16th June I found another nest on an island in Sharbot lake; it was just like the first one I found close to the water and about seven feet from the ground; the nest is large for the bird, built of dead twigs of spruce and hemlock with some fibrous roots, and lined with grass, feathers, rootlets, etc., the feathers in each nest being a special feature; outside it somewhat resembles the nest of the purple finch. (*Rev. C. J. Young.*)

The first warbler to arrive in spring at Scotch Lake, N.B., coming about the first of May and staying mostly about young growth woods or bushy pastures; they are fairly common during migration, and some seasons stay to breed; one nest was placed six feet up in a tamarac bush and contained four eggs. (*W. H. Moore.*) Nests found around Ottawa in May and June, saddled on the middle of a branch six feet from the ground in a large fir tree or at the summit of a small cedar tree ten feet high; they are made of twigs and rootlets covered with spider webs or a little plant down and lined with feathers and hairs; in some the feathers hide the eggs, in others the hairs are over the feathers; nest 4 x 2 and 2 x 1.50. (*Garneau.*) On the 18th June, 1882, I discovered for the first time in my experience, a nest of the myrtle warbler; it was in a low, black ash timbered swamp, where there was intermingling of other soft woods and conifers, near where I had found a bay-breasted warbler the year before, and of whose nest I was again in search, when I espied in a low balsam, about four feet from the ground, a nest with the mother bird seated upon it; at first sight this avifaunian cradle, in situation, material and construction, appeared like that of a chipping sparrow, but when the bird flushed off on my near approach, and from a position on a branch nearby, watched my movements, shifting uneasily and uttering a few "chip"-like notes, I carefully noted her plumage and became certain of her identity as a female myrtle warbler. This

nest contained four eggs, quite fresh, though the bird had begun to incubate; the nest itself was composed of stalks of dried weeds, fibres of bark, rootlets and hair from the tails of horses and cattle; the next summer I saw another complete nest of this bird, it contained no eggs; this was placed in the top of a small bushy blue-beech five or six feet high, and situated in a swampy piece of bush land. (*W. L. Kells.*) A very abundant species last spring (1903); the 17th May last I discovered a nest, most certainly a warbler's, which resembled those of the yellow warbler, built in the forked branches of a small maple about seven feet from the ground; this was in a hardwood thicket; there was but one egg in it, white with small, dark spots; I did not disturb either the nest or egg as I was desirous of seeing who the owners were; I watched for some time but saw only a myrtle warbler and she did not seem to be over anxious to claim the dainty little nest and its contents, so I left it, intending to call soon again, but did not get a chance until a week later when, to my sorrow, I found only the nest, which, however, seemed as sound as ever, but its contents were gone; so I am unable to prove it a myrtle warbler's nest, but from the actions of the birds about it when I first saw it, I believe it belonged to this species. (*A. F. Young.*) In *The Ottawa Naturalist*, Vol. XVIII., p. 151, Mr. L. M. Terrill gives a very full account of the breeding of this bird in Compton co., Que.

655*a*. Hover Warbler.

Dendroica coronata hooveri McGregor. 1899.

Though not now generally recognized as separable from typical *coronata* we still retain its varietal name for most of our Alaskan and B.C. coast specimens.

Western United States, breeding probably in British Columbia and Alaska. (*Allen* in *The Auk*, Vol. XVI., p. 343.) First seen at Victoria, B.C., April 26th, 1893, and two following days when they appeared in large numbers flying about in the poplar trees; they left in a few days; they were seen up to May 13th at Cedar hill, near Victoria, in 1887; common at Huntingdon on the International Boundary, in the Fraser river valley, in September, 1902; not common at Clayoquot sound, Vancouver island in September, 1907. (*Spreadborough.*) British Columbia. (*Lord.*) Not common and found only near the coast; a few individuals were found on

Vancouver island, associating with *audubonì*. (*Streator.*) An abundant summer resident. (*Fannin.*) Tolerably common migrant at Chilliwack, B.C. (*Brooks.*) Found associating with *audubonì* on Vancouver island; not seen east of the Coast range. (*Rhoads.*) This species is the hardiest of American warblers. In Alaska it breeds to the northern tree limit, considerably within the Arctic circle. (*Nelson.*) My specimens of this species were obtained at Fort Yukon where they breed. I observed this species at Nushagak, Bristol bay, in June, 1878, where it was quite abundant among the willow thickets along the river. (*Turner.*) We found Hoover's warblers at Skagway, Glacier, Log Cabin and Haine Mission, on the Lynn canal and White pass; also Bennett, Cariboo Crossing, Lake Tagish, Miles cañon, White river, Sixty-mile creek, and 12 miles above Circle City, in the Yukon valley. (*Bishop.*) A single adult male was taken June 23rd, 1897, and a few others heard previously in the dense firs along Indian river, Sitka. (*Grinnell.*) Two specimens were seen during June and July and several during August and September, 1901. One was taken on the Kenai mountains, August 17th, and one at Sheep creek, August 18th. (*Figgins.*) Several specimens taken at Seldovia and Sheep creek, Alaska, in 1903. (*Anderson.*)

Breeding Notes.—Hoover's warblers were numerous summer residents of the timber tracts throughout the Kowak valley from the delta eastward; in the latter part of August scattering companies were frequenting the spruce, birch and cottonwoods, among the foilage of which they were constantly searching, with oft-repeated "chits," just as are their habits in winter in California; the last observed, a straggling flock of six or eight, was seen in a patch of tall willows about sunset of August 30th; the following spring the arrival of Hoover's warblers was on May 22nd; they were already in pairs and the males were in full song; at this season they were confined exclusively to the heavier spruce woods; in the Kowak delta, on the 23rd of June, a set of five considerably incubated eggs was secured; the nest was in a small spruce in a tract of larger growth, and only four feet above the ground; it is a rather loose structure of fine, dry grass-blades, lined with ptarmigan feathers; the colour of the eggs is an extremely pale creamy tint, almost white, with wreaths about the big ends of large lavender blotches, and smaller spots of drab, overlaid by a few Vandyke brown. (*J. Grinnell.*)

656. Audubon Warbler.

Dendroica auduboni auduboni (Towns.) Sclater. 1858.

This warbler was only observed in the Rocky mountains beyond the eastern foothills of which it is not known to extend. (*Coues.*) Mr. Eastgate shot a female in a grove of pines in the Cypress hills, Sask., in 1906. (*A. C. Bent.*) Observed a pair near Calgary, June 22nd, 1897, in the foothills from there to Crow Nest pass in July and August; observed a few in the valley of the McLennan, B.C. in July, 1898; common at Banff, Rocky mountains, in the summer of 1891, building their nests in tall spruce trees; quite plentiful at Revelstoke, B.C., on the Columbia river, and down that stream to Deer park and Robson in June, 1890; young full grown by June 24th; arrived at Revelstoke on April 12th, 1890; common and breeding at Trail, on the International Boundary, in June, 1902; first seen April 13th, 1903, at Penticton, B.C., after this date they became common; rather rare at Spence Bridge, B.C., in May, 1889, but common at Hastings and Agassiz, in the Fraser valley; common nearly everywhere along the International Boundary from Fernie west to Douglas, B.C., in 1902–6; common around Victoria early in May, 1893, but the bulk of them had left by the 10th, only a few remained to breed; during the latter part of April and first half of May this bird is common in most parts of Vancouver island, but later they are very scarce. (*Spreadborough.*) British Columbia. (*Lord.*) Abundant spring and fall migrant. I think a few breed in the coast region; it is very common on Vancouver island. (*Streator.*) Very abundant summer resident all over the province. (*Fannin.*) A common summer resident at Chilliwack; a few remain until January. Tolerably common breeder at 150-Mile House, B.C. (*Brooks.*) Abundant summer resident everywhere in British Columbia. (*Rhoads.*) Found nesting at Donald, Agassiz and Vancouver, B.C. in 1894. (*E. F. G. White.*)

Breeding Notes.—At Banff, in the Rocky mountains, on June 14th, 1893, I found a nest containing four eggs of this species. It was built in a willow about five feet above the water on the shore of Vermilion lake. Mr. Dippie found its nest at Devil lake, fourteen miles from Banff, June 22nd, 1902. (*W. Raine.*)

657. Magnolia Warbler.

Dendroica maculosa (GMEL.) BAIRD. 1858.

Taken in South Greenland, near Godthaab, 1875. (*Winge.*) Audubon, Vol. II., p. 66, reports it common, with eggs and nest in the beginning of July, 1833; Drexler obtained a specimen at Moose Factory, May 28th, 1860. (*Packard.*) Common at Moose Factory, James bay, June, 1896; none observed elsewhere. (*Spreadborough.*) Tolerably common in Newfoundland in summer. (*Reeks.*) An abundant summer resident in Nova Scotia. (*Downs; Tufts.*) A common summer resident at Sydney, Cape Breton island, N.S. (*C. R. Harte.*) One seen on Sable island, N.S., May 25, 1904, and quite a large number, May 25, 1907; noted, May 31st, June 20th and October 8th, 1902. (*J. Boutelier.*) In woods at Baddeck and Margaree, Cape Breton island, July, 1898; on trees at Brackley point, Prince Edward Island, July 20th, 1888. (*Macoun.*) This is a characteristic warbler of the region and is abundantly represented on Prince Edward island. (*Dwight.*) An abundant summer resident at St. John, N.B. (*Chamberlain.*) Quite common in the Restigouche valley, N.B. (*Brittain & Cox.*) An abundant summer resident at Scotch Lake, York co., N.B. (*W. H. Moore.*) Rare at the Magdalens, a male taken on Grindstone island. (*Bishop.*) At both Fox and Ellis bays, Anticosti, this species was most abundant; it is also a common bird at Port Hawkesbury, at Gaspé and along the north shore of the St. Lawrence. (*Brewster.*) Rather common in woods at Lake Mistassini, Que. (*J. M. Macoun.*) A common summer resident around Quebec; taken at Charlesbourg. (*Dionne.*) A common but transient visitant at Montreal; observed here from May 18th to 24th, but not met with in the autumn. (*Wintle.*)

A moderately common migrant. A few may breed; found at the Mer Bleue, 3rd July, 1890, by Mr. W. E. Saunders. (*Ottawa Naturalist,* Vol. V.) Common in eastern Ontario during migration; rarely breeding; one nest I found contained four fresh eggs on July 1st, 1895; it was built in a bush of *Spiræa,* among small pines and hemlocks, near Otly lake, Lanark co., Ont. This bird is a common breeding species near Mingan, Que. I saw a nest with four eggs taken there in June, 1899; the nest was built in a small spruce tree. (*Rev. C. J. Young.*) An abundant summer resident in Parry Sound

and Muskoka districts, Ont. (*J. H. Fleming.*) Not rare as a summer resident in Algonquin park, Ont. Several seen at Missinabi, Ont., during the first week in June, 1904. (*Spreadborough.*) Abundant in spring and fall at Toronto, and as they reach us before the end of August fall migration it is reasonable to conclude that some at least do not go far to breed. (*J. Hughes-Samuel.*) A common migrant, but a rare summer resident in Middlesex co., Ont.; abundant in parts of north Bruce in June. (*W. E. Saunders.*) Passing migrant; seen about May 10th at Guelph, Ont., and again from about August 28th up till September 28th. (*A. B. Klugh.*) One or two seen at Norway House, Keewatin, and one taken at Oxford House. (*E. A. Preble.*)

One specimen of this species was taken in Wood mountain by Dr. G. M. Dawson and seen in his collection. (*Coues.*) A migrant in Manitoba, and apparently common near Winnipeg, but may breed in the northern part of the province. (*E. T. Seton.*) A tolerably common spring and autumn migrant at Aweme, Manitoba; arrives about the middle of May. (*Criddle.*) Abundant in Manitoba generally as a migrant, but not noted breeding. (*Atkinson.*) A few specimens seen at Wood mountain, Sask., where they were doubtless breeding, on June 12th, 1895; a specimen was shot at Revelstoke, B.C., in July, 1890; no others were seen; only two individuals observed at Edmonton, Alta., on May 22nd and 25th, 1897. (*Spreadborough.*) Abundant at Chemawawin, on the Saskatchewan. (*Nutting.*) A number of specimens seen at Lesser Slave river, Alta. (*J. M. Macoun.*) This is a common bird on the banks of the Saskatchewan; it is usually to be found in the thickets of young spruce trees and willows, flitting near the ground from one branch to another. (*Richardson.*) North to Fort Simpson, on the Mackenzie river; rather rare. (*Ross.*) Taken at Vernon, Lake Okanagan, B.C., in 1898, by Mr. Brooks. (*Fannin.*) A specimen taken at Field, in the Rocky mountains, and two or three observed at Vernon, B.C. (*Rhoads.*) Several seen at Quesnel, B.C., during the fall migration. (*Brooks.*)

Breeding Notes.—This species occasionally breeds in central Ontario, probably more often than the myrtle warbler. I found a nest in a small hemlock, May 30th, 1902, which grew on a wooded bank under large hemlock trees on a point at Sharbot lake. The

nest was ill-concealed, about four feet from the ground, and the bird left it when I approached. At a short distance it resembled a chipping sparrow's, but was composed outwardly of fine hemlock twigs, neatly woven, and was lined with hair and fibres. There were four fresh eggs, which were boldly marked, rather than spotted, with blotches of a dark brick-red on a creamy ground. I saw the bird leave the nest three times and identified it by the yellow markings and black on side of head. (*Rev. C. J. Young.*) This pretty little warbler arrives at Scotch Lake from the 10th to 15th May, and within a week of the first arrival is common. They frequent young spruce trees in pastures and partly cleared land. They nest in June, building near the ground in small spruces and generally on the outer end of a small limb. They lay four eggs, and the period of incubation is ten or eleven days, and the young stay in the nest about two weeks. (*W. H. Moore.*) A few pairs breed at Ottawa, while a great number go more to the north at Lake Nominingue. It nests in bushes of all kinds from one to four feet from the ground. The nests consist of small twigs, fine grass and rootlets, lined with hair or hair-like roots. (*Garneau.*) A very full account of the nesting of this species in Compton co., Que., by Mr. L. M. Terrill was printed in *The Ottawa Naturalist*, Vol. XVIII., p. 150.

658. Cerulean Warbler.

Dendroica rara (WILS.) RIDGWAY. 1897.

Rare spring migrant at Toronto, Ont. I have records of three males, May 24, 1890, May 20, 1893, and May 11, 1897; besides these there are four or five other local specimens, including a pair in the museum of Toronto University, taken in 1856. (*J. H. Fleming.*) Common in the southwestern part of Ontario, but rare near London and not extending much further north. A number of nests have been taken, varying from 25 to 60 feet above the ground and all saddled on fairly large limbs from $\frac{7}{8}$ to 2 inches in diameter. The nests are quite shallow, but are constructed similarly to those of the redstart. Eggs four. In former years the birds were much more common in the vicinity of London, Ont. (*W. E. Saunders.*) Nest and eggs taken at Drummondville, near Niagara Falls, Ont. (See *Ridgway, Hist. N. Am. Birds*, I., 1874, p. 235.) A regular summer resident in southern Ontario, but local. One spring I searched for it

carefully near Hamilton without seeing a single individual, while across the bay, four miles off, Mr. Dickson reported it quite common and breeding in the woods near the Waterdown station of the Grand Trunk railway. (*McIlwraith.*)

Breeding Notes.—I have two nests with sets of eggs of this species collected by Mr. Edward Reinecke, of Buffalo, N.Y. One nest containing four eggs was found on Navy island, in the Niagara river. The nest was placed on the limb of an elm, near the top about 50 feet from the ground and very hard to get at. (*W. Raine.*)

659. Chesnut-sided Warbler.

Dendroica pensylvanica (Linn.) Baird. 1858.

Accidental in South Greenland in 1887. (*Winge.*) Tolerably common throughout the summer in Newfoundland. (*Reeks.*) An abundant summer resident at Halifax, N.S. (*Downs.*) Rather uncommon summer resident in Nova Scotia. (*H. F. Tufts.*) A rare summer resident at St. John, N.B. (*Chamberlain.*) Tolerably common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Common summer resident at Montreal; breeds in Mount Royal park; nests with eggs found from June 5th to 24th; observed here from May 11th to August 18th. (*Wintle.*) A scarce migrant and possible resident in summer at Quebec. (*Dionne.*)

A common summer resident in the vicinity of Ottawa. (*Ottawa Naturalist,* Vol. V.) Not uncommon about Lansdowne, Leeds county, Ont.; I found a nest with four eggs, built in a small elm three feet from the ground, June 3rd, 1896, and plainly identified the bird. I have found it breeding commonly near Madoc, Ont., making its nest in hazel bushes. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont.; rare summer resident, probably breeds. An abundant summer resident in Parry Sound and Muskoka districts. (*J. H. Fleming.*) Observed several in low bushes along the Parry Sound railway on dry ground and in burnt woods where the second growth is low, in Algonquin park, Ont., in June and July, 1900. Common and breeding along the C.P. Ry. at Missinabi, Ont. (*Spreadborough.*) Not as common as formerly in summer though it still breeds in fair numbers around London, Ont. (*W. E. Saunders.*) Common as a migrant, breeding in varying numbers every year at Guelph, Ont.;

arrives about May 8th and leaves about August 18th. (*A. B. Klugh.*) One specimen only of this distinctive species was secured at Pembina—perhaps its western if not its northern limit. (*Coues.*) A common summer resident in the wooded parts of Manitoba. Its choice of locality usually causes it to be found chiefly in half-open woods, especially along the edges of low, marshy places. It frequents the tops of the highest trees. (*E. T. Seton.*) Tolerably common at Aweme, Manitoba, where it breeds. (*Criddle.*) Very abundant as a migrant in Manitoba, breeds sparingly throughout the province. (*Atkinson.*)

Breeding Notes.—Found a nest in Beechwood cemetery near Ottawa, which was built in an upright crotch about six feet from the ground. The nest was a loosely woven mass of dried weeds and fibrous substances lined with fine grass and horse-hair. Eggs 4, white with reddish brown markings. (*G. R. White.*) Nests around Ottawa in June and also at Lake Nomininge, 100 miles north of Ottawa, in raspberry bushes and low shrubs; the nests are made with grasses and strips of bark lined with vegetable fibres and finer strips of bark; nest 3 x 2 and 2 x 1.25. (*Garneau.*) On May 22nd of the past year (1900) not far distant from each other, I noticed two newly formed nests of this bird; the first seen was deep in the underwood, and placed in the fork of a small bushy maple about twenty inches off the ground; this was so bulky and compactly built that at first I took it to be a nest of an indigo bird; it was formed of a kind of woody fibre gleaned from decayed timber, vines and grasses, and lined with long, black horse-hair, which it must have taken the builder a good deal of time, with much trouble, to collect and place in position; on the above date this nest contained an egg of the cow-bird, which I removed and—five days after—it contained three eggs of the chestnut-sided warbler, and on these the female was incubating, and as the usual set of eggs of this species numbers four, it was evident that the cow-bird had removed one of the warbler's when she deposited her own; this tramp among birds, is one of the worst enemies with which the whole family of the warblers has to contend, as many of their nests are found to contain one or more of the cow-bird's eggs; and there is danger that the progeny may destroy the whole brood in the nest of the species in which it is cradled; on one occasion I found a nest of the chestnut-sided warbler which contained four cow-bird's eggs, and but one of the warbler's own; the eggs of

this species are of a whitish hue, with a very irregular wreath, or belt, of a brownish colour, around the larger end, and some dottings, sometimes of a blackish hue, on the middle surface; the smaller end is unmarked; the other nest of this species, noted on the same date, was near the edge of the wood, and placed between several stalks of raspberry vines about two feet off the ground, and composed of materials much similar to the other, with the exception of the horse-hair lining, and was not so bulky in size—this was on the 30th of May, contained four eggs; a week after, two other nests of this species were noted, both deeper in the wood, and both placed in the forks of little maples, but at varying elevations from the ground, one being about four feet, this contained four eggs, the other which contained three eggs, was about two feet off the ground, and by the side of a pathway. In both cases these were evidently advanced in incubation, and were not molested; I concluded that in this tract of forest about a dozen pairs of this species were breeding, but they have many enemies among other birds and small animals. (*W. L. Kells.*) In the *Ottawa Naturalist*, Vol. XVIII., p. 152, Mr. L. M. Terrill describes the nesting of this bird in Compton county, Que.

660. **Bay-breasted Warbler.**

Dendroica castanea (WILS.) BAIRD. 1858.

Drexler obtained a specimen at Moose Factory, June 2nd, 1860; three individuals were seen at Black island, Hamilton inlet, by myself, June 9th, 1882; two specimens were shot but lost. (*Packard.*) Tolerably common summer resident in Newfoundland. (*Reeks.*) An uncommon summer resident at Halifax, N.S.; more common inland. (*Downs.*) Rare summer resident in Nova Scotia. (*H. F. Tufts.*) One seen at Baddeck, Cape Breton island, June 4th, 1890. (*F. H. Allen.*) An occasional summer resident at St. John, N.B. (*Chamberlain.*) In the vicinity of Scotch Lake, N.B.; this is one of the late arriving warblers, not being observed until late in May. It is a rather rare summer resident and is found mostly about the scrubby edges of woodlands in rather moist places. (*W. H. Moore.*) A pair seen in woods near Black river, Prince Edward island, July 18th, 1888. (*Macoun.*) A scarce transient visitant at Montreal. I have shot specimens on the spur of Mount Royal as late as May 28th, 1892, but have not met this species after that date. Mr. Kuetzing

says this species breeds on Montreal island, as he has seen them on the eastern part of the island in July. (*Wintle.*) Seldom met with around Quebec in summer; taken at Beauport. (*Dionne.*) A rare, irregular spring migrant in May and June. A pair was observed gathering nest material, June 15th, 1902, at Scotch Lake, N.B. (*W. H. Moore.*)

A moderately common migrant around Ottawa. (*Ottawa Naturalist*, Vol. V.) An uncommon warbler in eastern Ontario; I saw one specimen in the grass at Lansdowne, Leeds co., Ont. A few breed on the Magdalen islands. I obtained a nest with four eggs taken there in June, 1898, ten feet from the ground, in a spruce tree. The eggs are fully as large as those of the black-poll warbler, but are differently marked. (*Rev. C. J. Young.*) Not abundant in the Parry Sound and Muskoka districts. I have met with it only during migration. Regular spring migrant at Toronto, Ont., not very common; one fall record, a young female, August 24th, 1906. (*J. H. Fleming.*) Though usually by no means abundant I think no spring season passes without a fair number visiting this locality. If they pass this way in the fall in any numbers I think they do so in company with *D. striata*, which they at this season much resemble, and so are not noted. Occasionally in May they are unusually abundant—my note for 19th May, 1888, reading: "Heavy thunder storm about 3 a.m. and another at 6 a.m. Morning much milder than of late; atmosphere very hazy. Vast influx of migrants, many of which had no doubt been kept back by the cold nights the past week. Bay-breasts were astonishingly numerous, and in fact, though it may seem strange, although many of the common warblers were here in full force, *D. castanea* was certainly the most numerous—so much so in fact that at one time I counted no less than twelve feeding on the ground at one time, and in the space of a few feet. The insects had been beaten down by the previous night's storm. I also saw several of these birds taking a dainty little bath in a puddle of water in company with many birds of widely divergent habits. (*J. Hughes-Samuel.*) Passing migrant at Guelph, Ont. Abundant this fall (1903). Seen about May 15th, and again about August 27th. (*A. B. Klugh.*) I found the nest of this species north of Waterloo, Ont., May 22nd, 1899; nest in a hemlock, five feet from the ground. (*W. Raine.*)

A rare summer resident in Manitoba. Only mentioned by a few observers. (*E. T. Seton.*) Very abundant as a migrant in Manitoba, breeds sparingly throughout the province of Manitoba; not noted west of Fort Ellice in 1906. (*Atkinson.*) A rare summer resident at Aweme, Manitoba; arrived May 18th, 1903, and last seen August 21st. (*Criddle.*) A rare summer migrant at Indian Head, Sask. Only one individual seen in the spring of 1892, on June 8th. Only one individual was seen at Medicine Hat, Sask., in the spring of 1894. (*Spreadborough.*) One was taken at Oxford House, Keewatin, July 3rd, 1901. (*E. A. Preble.*)

Breeding Notes.—Here the first nest that claimed my attention was one placed on the side of a small birch tree, where a tuft of twigs grew out from the ground. I soon reached and secured this; it contained three fresh eggs; these were of a white hue with dottings and patches of a brownish or flesh colour, the nest itself being composed of fragments of bark, rootlets and hair; I did not then note the owner, nor could I at that time have identified the species, but I gave them a name and placed them in my collection. Two years after—June, 1879—I was out in a piece of swampy woods, south of the town, when my attention was arrested by the actions of a small bird, which was constructing a nest among some leafy twigs growing on the small horizontal branch of a little water-elm, about three feet out from the trunk and ten feet off the ground. Some days after I viewed this nest again, it then contained one egg, and three days later when I revisited it, I found the bird at home sitting on three eggs, which I inferred were the full set, and that incubation had begun. When this bird flew off her nest and took a position on a branch nearby, uttering a few chip-like notes, I identified her as a female bay-breasted warbler. The nest and eggs were exactly like those above described, and of course both belonged to the same species. Some days after this I found another nest of this bird in a neighbouring *lowland* wood; this was placed in the top of a small hemlock, about fourteen feet from the ground, constructed of similar materials, and contained four eggs. Since then no nest of this species with eggs has come under my observation, but I have noted a few others in which young had apparently been raised. One of these was on the side of a small cedar, where a little branch grew out, and about four feet off the ground; another, evidently a new nest, but after the breeding season when I found it, was placed among

some leafy twigs on the side of a pretty large birch tree, five or six feet from the ground. This, with a set of the first eggs of the species that I took, are still in my collection, and a notable feature about the nest of this find, is that the beginning and outside of the nest is ornamented with pieces of birch bark, and usually also with insect cocoons. It much resembles the nest of a chipping sparrow, but there is less hair in the inside, and the foundation is less bulky. Inside, it is about two inches across, by one and a half deep. (*W. L. Kells.*)

661. Black-poll Warbler.

Dendroica striata (FORST.) BAIRD. 1858.

One specimen sent from Godthaab, Greenland, in 1853. (*Arct. Man.*) Abundant throughout the wooded portion of Labrador. Breeds plentifully at Fort Chimo, where seven nests and eggs were obtained in 1884 by Turner. (*Packard.*) Observed one at Fort George, June 20th, 1896, and two more between the fort and Richmond gulf; common all across Ungava from Richmond gulf to Fort Chimo; I believe the last of them left the country for the south about August 23rd, 1896, as on that day I saw the last one near Fort Chimo. (*Spreadborough.*) A very abundant and characteristic bird, of northeastern Labrador; as far north as the limit of timber near Cape Aillik. (*Bigelow.*) Apparently not uncommon in summer in Newfoundland. (*Reeks.*) Seen in large numbers on the Humber river, Newfoundland, August 27th, 1899. (*Louis H. Porter.*) A not uncommon summer resident at Halifax, N.S. (*Downs.*) Locally common summer resident in Nova Scotia; common as a migrant in King's county from June 1 to 10. (*H. F. Tufts.*) Appeared in numbers on Sable island, N.S., May 21st, 1902. This was after a gale; one seen, May 18th, 1907. (*J. Boutelier.*) Not common at Baddeck, Cape Breton island. (*F. H. Allen.*) Common during the spring and autumn migrations. Rare in summer at St. John, N.B. (*Chamberlain.*) A rare spring migrant at Scotch Lake, York county, N.B. (*W. H. Moore.*) A very abundant bird on the Magdalen islands; breeding everywhere. (*Bishop.*) Decidedly the most numerous of the warblers on the Magdalen islands, and fairly common at Anticosti as well as along the north shore of the St. Lawrence. (*Brewster.*) Not rare at Lake Mistassini, Que. (*J. M.*

Macoun.) A rare migrant in spring at Quebec. (*Dionne.*) I consider this species an irregular spring migrant, and have not met with them here in the autumn. (*Wintle.*)

A moderately common migrant in the vicinity of Ottawa. (*Ottawa Naturalist*, Vol. V.) I have seldom seen this bird in eastern Ontario. I found this to be the commonest warbler by far in Magdalen islands in June, 1897; I found four nests all built in bushy spruce trees at from two to five feet from the ground; they are late birds to arrive there and do not commence to build until the middle of June; I noticed that the eggs were almost all blotched with dark umber brown as well as spotted and speckled like the last species. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont., not very common. (*J. H. Fleming.*) The black-polls seem very local at Toronto, as, though I have found them decidedly abundant during the last two years in a particularly nice little patch of tall willows near the lake shore, I do not know of any one else having noted a single specimen. May 15th is the earliest date on which I have seen them—three males appearing then, and increasing in numbers till 26th May, when the first females were seen; by 2nd of June all had passed on; my earliest fall note is 27th August, and from this date on the numbers daily increase till the trees are almost alive with their weak call-notes. While with us in the spring the males keep up their somewhat insect-like notes at intervals during the whole day, as they glide from branch to branch—not dashing and darting about with the vim that is so characteristic of many members of this family. (*J. Hughes-Samuel.*) A passing migrant at Guelph, Ont.; not common. (*A. B. Klugh.*) Abundant migrant in fall but not very common in spring at London, Ont. (*W. E. Saunders.*) Observed several on the east coast of James bay in 1904. (*Spreadborough.*) Taken at Fort Churchill, Hudson bay. (*Clarke.*) At Oxford House, June 30th to July 4th they were rather common; on July 10th we noticed a pair in a thicket that bordered Hayes river, a few miles above York Factory, and on arriving at that post we again found the birds rather common; at Fort Churchill, where they were also common we took another specimen, July 24th, 1901. (*E. A. Preble.*)

One specimen of this species was procured at Wood Mountain on the 49th parallel by Dr. G. M. Dawson, Geologist of the English Commission. (*Coues.*) A rare migrant in Manitoba; probably

breeding. (*E. T. Seton.*) A tolerably common spring visitant, possibly breeds at Aweme, Manitoba. (*Criddle.*) Common migrant in Manitoba generally, not known to breed. (*Atkinson.*) This is a common spring migrant at Indian Head, Sask., two individuals were seen May 9th, 1892; towards the end of the month they became common, but all disappeared by June 5th; first saw one male May 10th, 1894, at Medicine Hat, Sask.; quite common by the 16th, all disappeared by the end of May; some may breed, as they acted as if they would; a few individuals seen at Old Wives creek, Sask., late in May, 1895; one individual seen at the upper crossing of Lob-stick creek, northwest of Edmonton, June, 1898; a common breeding species at Banff, Rocky mountains, in the summer of 1891; observed a pair at Bragg creek, about 40 miles southwest of Calgary, June 28th, 1897. (*Spreadborough.*) One specimen secured at the Grand Rapids of the Saskatchewan. (*Nutting.*) Two or three individuals seen on the Athabaska river near Lesser Slave river. (*J. M. Macoun.*) Our specimen of this bird was killed by an Indian in the neighbourhood of Cumberland House, in the latter end of May. (*Richardson.*) North to Lapierre House, on the Mackenzie river; common. (*Ross.*) More plentiful than *D. coronata*, although only 21 nests were secured. (*Macfarlane.*) Female observed feeding young at Artillery lake, August 5th, 1907. (*E. T. Seton.*) They were all similarly situated, and contained four or five eggs, and two or three of them were on the ground. I shot a black-poll warbler in the first plumage at Quesnel, B.C., but was unable to find it in the thick brush; I am very well acquainted with the species and am positive of its identity. (*Brooks.*) Although this species has its breeding grounds in the wooded interior it occurs along the sea-coast of Norton sound during the spring migration. (*Nelson.*) This species was obtained only at Fort Yukon on September 18th, 1875, and also in 1877; it is not common at any time in that locality. (*Turner.*) At Log Cabin in the White pass on June 15th, 1899, this species was common; on July 5th took a male at Lake Marsh and two specimens were taken at Cariboo Crossing, B.C. (*Bishop.*) One specimen taken at Fort Kenai, Cook inlet, Alaska, by Bischoff. (*Osgood.*) Found breeding in the Kowak valley, Kotzebue sound, Alaska, in 1899. (*Grinnell.*) An adult female was taken on Sheep creek on the Kenai peninsula, Alaska; besides being noted at several other points and no doubt breeds there. (*Figgins.*)

662. Blackburnian Warbler.

Dendroica blackburniæ (GMEL.) BAIRD. 1858.

A young specimen taken in Greenland at Frederickshaab, October 16th, 1845, is referred here. (*Arct. Man.*) Audubon, Vol. II., p. 48, saw several in Labrador. (*Packard.*) A very rare summer resident inland in Nova Scotia. (*Downs.*) Rather common summer resident in King's county, Nova Scotia. (*H. F. Tufts.*) Rare at Baddeck, Cape Breton island, July, 1898. (*Macoun.*) An occasional summer resident at St. John, N.B. (*Chamberlain.*) A tolerably common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Not very common summer resident at Quebec; taken at Charlesbourg. (*Dionne.*) A common transient visitant at Montreal. Observed here from May 10th to 24th, but not met with in the autumn. (*Wintle.*) I saw a pair in an open spot in spruce woods in Compton county, Que, July 12th, 1902. (*L. M. Terrill.*)

A common migrant at Ottawa. A male in full plumage was seen in Dow's swamp, June 24th, 1890, by Dr. F. A. Saunders. (*Ottawa Naturalist*, Vol. V.) Commonly seen as a migrant in Leeds county, Ont., in the month of May. I saw a pair of these birds in a small swamp of black spruce and tamarack at Sharbot lake, Ont., June 17th, 1904. They appeared to be breeding. They are common in migration at Queensboro, West Madoc, Ont. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont ; this was a rare warbler twenty years ago. A common summer resident in Parry Sound and Muskoka districts. (*J. H. Fleming.*) Observed several in thick woods in Algonquin park, Ont. They keep to the tops of trees. I have never seen them near the ground. (*Spreadborough.*) This beautifully attired warbler is just plentiful enough at Toronto for all who desire to make their acquaintance annually to do so with but little trouble. Their favourite resort is among the hemlocks and similar growths. Usually reaching us about 10th May and I have seen a few as early as 3rd of May. In the year 1900 I saw several on 21st August. (*J. Hughes-Samuel.*) A rare summer resident, but a fairly common migrant at London, Ont. (*W. E. Saunders.*) A passing migrant, fairly common at Guelph, Ont. Seen about May 8th and again about August 28th. (*A. B. Klugh.*)

A rare summer visitor in the western part of Manitoba, but more common in the eastern part where it doubtless breeds. I noticed

it only once at Carberry. (*E. T. Seton.*) A rare spring migrant at Aweme, Manitoba. (*Criddle.*) Common in Manitoba generally, not known to breed. (*Atkinson.*) This species is recorded by Murray from Severn House and Trout lake, Keewatin under the name *Sylvicola parus*. (*E. A. Preble.*)

665. Black-throated Gray Warbler.

Dendroica nigrescens (TOWNS.) BAIRD. 1858.

This species was taken at Agassiz and at Hastings, in the Fraser valley in May, 1889; four individuals were shot at Huntingdon on the International Boundary in September, 1902, these were the only ones seen; several seen at Douglas, B.C., and two on the Chilliwack river in 1906. (*Spreadborough.*) British Columbia. (*Lord.*) Found on the coast only; not common. (*Streator.*) Not common; I have only noticed it on the coast. (*Fannin.*) Tolerably common summer resident at Chilliwack. (*Brooks.*) On Vancouver island the peculiar song of *nigrescens* was occasionally detected but no birds secured. I feel quite sure that I saw a pair in the mountains back of Clinton, B.C. (*Rhoads.*)

667. Black-throated Green Warbler.

Dendroica virens (GMEL.) BAIRD. 1858.

One specimen sent from Julianshaab in 1853. (*Arct. Man.*) A tolerably common summer resident in Newfoundland. (*Reeks.*) Abundant in Nova Scotia. (*H. F. Tufts.*) Common summer resident in pine and spruce woods at Halifax, N.S. (*Downs.*) Several seen, May 25th, at Sydney, Cape Breton island, N.S. (*C. R. Harte.*) Quite common in spruce trees at Brackley point, Prince Edward island; breeding June, 1888; common at Baddeck and Margaree, Cape Breton island, July, 1898. (*Macoun.*) One seen on Sable island, N.S., October 7th, 1905 and one seen, June 17th, 1906. (*J. Boutelier.*) Abundant at every place visited on Prince Edward island where the forest was of considerable size. (*Dwight.*) A common summer migrant in the vicinity of St. John, N.B. (*Chamberlain.*) A common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Rare on the Magdalen islands; one pair seen on Grindstone island. (*Bishop.*) Rare in the Restigouche

valley, N.B. (*Brittain & Cox.*) Met with only about Port Hawkesbury, Cape Breton island, and at Fox and Ellis bays, Anticosti. (*Brewster.*) A rather common summer resident at Quebec; taken at Charlesbourg. (*Dionne.*) A common spring migrant, but a scarce summer resident at Montreal. Observed here about May 7th and leave about October 10th. (*Wintle.*)

A moderately common migrant in the vicinity of Ottawa. (*Ottawa Naturalist*, Vol. V.) A few of these birds are to be met with in eastern Ontario in the breeding season; I met with a nest once in the month of July, 1898; this was on Deer island, one of the Thousand islands; it was built in a pine tree about 25 feet from the ground and at the time contained young birds. I noticed a pair breeding at Sharbot lake, Ont. in June, 1903. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont. A common summer resident in Parry Sound and Muskoka districts; Mr. Kay refers to it as only just becoming common at Port Sydney, Muskoka in 1890. (*J. H. Fleming.*) Not very common in summer in Algonquin park, Ont.; in 1900 only a few observed in the tree tops in thick woods. Observed on the Missinabi river and Moose river nearly to Moose Factory. (*Spreadborough.*) A common summer resident in the deeper cedar swamps around London; abundant as a migrant; a common breeding bird in North Bruce. (*W. E. Saunders.*) Fairly common summer resident at Guelph, Ont., and abundant during migrations. This year (1903) it has been as common a breeder as the yellow and black-and-white warblers and by far our most abundant migrant; arrives about May 1st and leaves about September 30th. (*A. B. Klugh.*)

One specimen taken at Medicine Hat, Sask, May 17th, 1894; the only one seen; first seen at Edmonton, Alta., May 15th, 1897; common in the spruce woods by May 22nd; breeding in the woods; one pair seen at Peace River Landing in lat. 56° 15′ in June, 1903. (*Spreadborough.*) This species was seen at Aweme, Manitoba, on May 13th and 17th, 1898. (*Criddle.*) A regular but not common migrant in the more eastern portion of Manitoba. (*Atkinson.*)

Breeding Notes.—My notes on this species in Compton county, Que., are based on three nests, and if others should be found to continue in a relative similarity, a description of one would suffice.

The first, found June 1st, 1902, was fastened, one foot from tip, on to a limb of a small shrubby spruce, three feet from the trunk and six from the ground. The spot chosen was a side hill covered with a growth of young spruce and cedar. The nest, well hidden by an overhanging branch, held four fresh eggs and was composed exteriorally of dead spruce twigs neatly interwoven with yellow birch bark shreds and lined with fine grasses and animal hair. Its inside diameter measured $1\frac{3}{4}$, outside 3 inches; inside depth, $1\frac{3}{4}$, outside, $2\frac{1}{3}$ inches. The well rounded and finished appearance and the predominance of birch bark reminded me of certain vireos' nests. Two nests found later, on June 9th and 29th, were similarly situated and constructed and contained respectively four fresh and one addled egg. The eggs measured uniformly .66 x .49, are white, distinctly and obscurely dotted, chiefly at the larger end, with varying shades of rufous brown and lilac and a few distinct spots of black. (*L. M. Terrill.*)

668. **Townsend Warbler.**

Dendroica townsendi (Towns.) Sclater. 1858.

A few individuals seen at Revelstoke, B.C., in May, 1890, and a male shot on the 23rd; one taken at Huntingdon, on the International Boundary, in September, 1902, the only one seen; first seen on Vancouver island, April 19th, 1893; shortly after they began to nest in the Douglas firs near Victoria. A common summer resident on the island. (*Spreadborough.*) British Columbia. (*Lord.*) A single specimen was collected at Mount Lehman in September. (*Streator.*) East and west of coast range; not common. (*Fannin.*) Migratory at Chilliwack; scarce. (*Brooks.*) Abundant on Vancouver island, but rare east of the Coast range. (*Rhoads.*) One specimen seen at English bay near Vancouver, B.C., August 8th, 1894. (*E. F. G. White.*) One taken at Cumshewa inlet, Queen Charlotte islands, June 15th, and five others at Skidegate, July 14th; Mr. Keen found it at Massett and noted its spring arrival from 1891 to 1898. (*Osgood.*) A single adult female taken at Sitka, Alaska, August 14th, and two others seen at the same time. (*Grinnell.*) Hartlaub states that this species was once seen by Dr. Krause on May 27th, in conifers of upper Dejah valley, Alaska,

which is probably the most northern point from which it has yet been recorded. (*Nelson.*) Osgood took a male at Skagway, May 31st. It was tolerably common at Glacier in the dense woods of spruce and fir, and unquestionably nesting. Altogether we noted about twenty individuals during our stay. Osgood took an adult at the southern end of Lake Marsh, north of lat. 60°, in the Yukon district, July 1st, and I an adult female and a young female on the west shore of Lake Lebarge, July 14th. This is a new species to the Yukon valley. (*Bishop.*) Two specimens taken respectively in Kenai mountains, Alaska, August 14th, and at Sheep creek, August 17th, considerably extend the range of this species to the westward. (*Figgins.*) One taken at Seldovia and one at Sheep creek, Alaska. (*Anderson.*)

669. Hermit Warbler.

Dendroica occidentalis (Towns.) Baird. 1858.

A summer resident, chiefly west of the coast range in British Columbia. (*Fannin.*) We have no other record of this species, and yet we have looked for it every season.

670. Kirtland Warbler.

Dendroica kirtlandii Baird. 1858.

This is said to be the only warbler occurring in North America of which the nest and eggs are unknown; and prior to the past spring (1900) the appearance of this bird in Canada has not been recorded, as far as I have been able to ascertain. My notes are as follows: "16th May, 1900, 5.30 a.m., morning dull; east wind, warblers, etc., plentiful. After a while I was attracted to the centre of a cluster of tall willow trees by notes—strong, clear and with quite a musical ring—and as the song, short but remarkably pretty, was quite new to me I approached carefully under cover of a tree trunk and found myself within a few feet of my new acquaintance, for such it proved to be. While watching the bird with my field glass I noticed a tendency to jerk its tail slightly, and not like the ostentatious jerk of a waterthrush, but more after the nervous manner I have seen adopted in fall by *Wilsonia pusilla.* As soon as the bird observed me he darted into another

tree, hiding behind a branch, but, curiously enough, still singing. I approached under cover and on taking the bird found I had been fortunate enough to secure a specimen of *D. kirtlandii* in good plumage. On stepping the distance from the tree where I was standing to the tree on which the bird was singing when I first heard him, I found it to be 110 yards, which goes to show the power of his voice." (*J. Hughes-Samuel.*)

671. Pine Warbler.

Dendroica vigorsii vigorsii (AUD.) RIDGW. 1885.

Several seen on June 20th, and September 27th, 1902, on Sable island, N.S.; one taken, June 8th, 1904; one, May 28th, 1905, and several,,September 30th in a northwest gale; one seen June 17th and several, September 29th, 1906; one seen, May 16th, 1907. (*J. Boutelier.*) Said to occur in New Brunswick by Dr. Adams. (*Chamberlain.*) A specimen was picked up on Haymarket square by master Ralph Finlay and communicated to me by Mrs. M. V. Laurence. (*A. G. Leavitt.*) Specimens have been taken in Quebec prior to 1889. (*Dionne.*) A scarce transient visitant at Montreal. I have shot specimens of this warbler on the spur of Mount Royal from September 12th to 26th. (*Wintle.*)

A rare spring migrant at Ottawa. (*Ottawa Naturalist*, Vol. V.) One taken by Mr. Taverner on April 30th, 1898, is the only record I have for either the Parry Sound or Muskoka district. (*J. H. Fleming.*) I found these birds quite abundant among the pines west of Toronto in 1894, the first arrivals were noted on the 21st April; on the 8th May, 1895, I took one specimen and on 20th April, 1896, met another single bird; since these dates I have not met with the species, either on account of none having visited this district or more likely because the haunts in question have been denuded of the trees. (*J. Hughes-Samuel.*) A rather common species at Hamilton, Ont., where it raises its young every season. (*McIlwraith.*) Rather rare both as a migrant and summer resident, though it may be found each year in a few pine woods around London, Ont. (*W. E. Saunders.*) A tolerably common summer resident to the north and east of Manitoba. (*E. T. Seton.*) A tolerably common summer resident at Aweme, Manitoba; it arrives about May 15th and leaves about September 2nd. (*Criddle.*)

672. Palm Warbler.

Dendroica palmarum palmarum (GMEL.) BAIRD. 1858.

This species was found common and breeding in the Mer Bleue, July 3rd, 1890, by Messrs. W. E. and F. A. Saunders and several of the young were shot; it was again seen there August 9th of the same year. (*Ottawa Naturalist*, Vol. V.) Often found in places where one would not usually look for warblers; the palm warbler reaches us at Toronto early in May in fair numbers, and sometimes in the fall it is certainly abundant, as was the case during the last week in September, 1899. (*J. Hughes-Samuel.*) Occurs regularly at Toronto but not very common. Hamilton records, April 27th, 1891, and September 1st, 1886. (*J. H. Fleming.*) Usually rare in the migrations, but sometimes quite common around London, Ont.; not known to breed in this district. (*W. E. Saunders.*)

A fairly common spring and autumn migrant at Aweme, Man. first seen about May 10th, and last seen October 6th, 1903. (*Criddle.*) An abundant migrant in eastern Manitoba; apparently all go north to breed. (*E. T. Seton.*) Very abundant migrant in Manitoba, but not noted breeding. (*Atkinson.*) Taken at Fort Churchill, Hudson bay. (*Clarke.*) One was seen on a small willow-covered island in Hill river, Keewatin, September 4th, 1901. (*E. A. Preble.*) A single specimen of this species was shot on the swampy banks of the Saskatchewan at Cumberland House, in a shady thicket of willows, alders and ash-leaved maples. (*Richardson.*) North to Fort Resolution on Great Slave lake; rare. (*Ross.*)

BREEDING NOTES.—Two nests with four eggs in each, perfectly fresh, were taken by me at the Mer Bleue, near Ottawa, Ont., on May 25th and July 6th, 1908. On the first occasion I saw the female on the top of a black spruce. I hid and watched her for half an hour, and when the male appeared the female went straight to the nest, which was about fifty yards from my hiding place. The nest was on the ground at the base of some small blueberry bushes and lined with fine grass and feathers. (*C. H. Young.*)

672*a*. Yellow Palm Warbler.

Dendroica palmarum hypochrysea RIDGW. 1876.

A specimen was obtained by Drexler at Moose Factory in July, 1860; Audubon, Vol II., p. 55, found them plentiful in Labrador;

young seen in August. (*Packard.*) One of the earliest spring migrants and tolerably common in Newfoundland. (*Reeks.*) Seen in large flocks on the Humber river, Newfoundland, 1899. (*Louis H. Porter.*) In numbers on Sable island, N.S., September 16th, 1905, and October 3rd, 1907. (*J. Boutelier.*) One of the earliest arrivals in Halifax, N.S.; not very common. (*Downs.*) A common summer resident at Sydney, Cape Breton island. (*C. R. Harte.*) Common migrant in Nova Scotia, a few remain to breed. (*H. F. Tufts.*) A few observed at Baddeck, Cape Breton island, in June, 1890. (*F. H. Allen.*) An incubating female taken at Tignish, Prince Edward island is the only evidence I have of this bird's occurrence there. (*Dwight.*) The first spring warbler at St. John, N.B.; breeds abundantly. (*Chamberlain.*) Spring migrant at Scotch Lake, York county, N.B. (*W. H. Moore.*) A rare spring migrant at Quebec. (*Dionne.*) A rare transient visitant at Montreal; I shot a male specimen of this species May 7th, 1891, on the spur of Mount Royal. This is the only example of this warbler that I have met with in this district. (*Wintle.*)

A rare migrant at Ottawa; latest record, May 6th and 8th, 1888. (*Ottawa Naturalist*, Vol. V.) I noticed this bird to be very common in bushy places and waste ground on Wolfe island near Kingston, Ont., near the end of April and beginning of May, 1900. They were migrating, but for a few days were quite tame, alighting a good deal on the ground at the base of small bushes. (*Rev. C. J. Young.*)

673. Prairie Warbler.

Dendroica discolor (VIEILL.) BAIRD. 1858.

The only note I have of this bird reads:—"11th May, 1900. Very cold morning and I did not see more than a dozen common warblers from 5 to 7 a.m. As I was coming home I saw a small but active little warbler which was quite new to me and I followed it for a considerable distance as it passed quickly from tree to tree. Ultimately I took it and was pleased to find that I had a specimen of the prairie warbler, the first recorded appearance of this bird in Ontario." (*J. Hughes-Samuel.*) On May 11th, 1900, while on a collecting expedition near Toronto, Ont., I took a male prairie warbler in full plumage. (*J. H. Ames* in *The Auk*, Vol. XVIII.,

p. 106.) On September 5th, 1905, I took a young male on the east shore of Point Pelee, Essex county, Ont. (*A. B. Klugh.*) Mr. W. E. Saunders took one specimen, a female, near Cameron lake, Bruce county, May 28th, 1905, and on May 30th heard several others. An account of their occurrence was published in *The Ottawa Naturalist*, Vol XIX., p. 206.

CCLIV **SEIURUS** SWAINSON. 1827.

674. **Oven Bird. Golden-crowned Thrush.**

Seiurus aurocapillus (LINN.) SWAINS. 1827.

A skin taken at Nanortalik, Greenland, in May, 1882, is in the museum at Copenhagen. (*Winge.*) Stearns, p. 116, records this species as breeding in southern Labrador. (*Packard.*) Very abundant along the Moose river; seemed to prefer the hillsides of the river valley that have a heavy growth of birch and poplar; none observed as far north as Moose Factory in 1896. (*Spreadborough.*) Locally common as far north as Aillik in north-eastern Labrador. (*Bigelow.*) A summer migrant in Newfoundland, but not common. (*Reeks.*) A common summer resident of Halifax, N.S. (*Downs.*) A few observed at Baddeck, Cape Breton island, in June, 1890. (*F. H. Allen.*) One seen on Sable island, N.S., May 25th, 1904. (*J. Boutelier.*) A common summer resident at Sydney, Cape Breton island. (*C. R. Harte.*) One was noted at Tignish, Prince Edward island, and a number at Souris in the hardwood timber. (*Dwight.*) A common summer resident at St. John, N.B. (*Chamberlain.*) Common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Tolerably common in the Restigouche valley, N.B. (*Brittain & Cox.*) Rather common on Grindstone island, Magdalen islands. (*Bishop.*) A single pair was observed at Ellis bay, Anticosti, July 24th. (*Brewster.*) With us this bird is a common summer resident around Quebec. (*Dionne.*) A common summer resident at Montreal. Breeds in Mount Royal park. Nests with eggs found June 5th and 13th and young fledged, June 21st. Observed here May 8th to September 15th. (*Wintle.*)

A common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) A very common species in eastern Ontario throughout the summer and heard in almost every large wood, especially where

beech trees grow; it makes its domed nest on the ground among the leaves; one I found, 29th May, 1896, contained six eggs. (*Rev. C. J. Young.*) Common migrant at Toronto, Ont.; rare summer resident; breeds. One of the most abundant summer residents in Parry Sound and Muskoka districts; breeds on the ground, usually in the open hardwood bush. (*J. H. Fleming.*) Everywhere common in hardwood bush in Algonquin park, Ont., June and July, 1900; from Missinabi to Moose Factory, James bay. (*Spreadborough.*) Abundant around Toronto; breeds in many places near the city. (*J. Hughes-Samuel.*) Abundant resident in all suitable localities around London, Ont. (*W. E. Saunders.*) Common summer resident at Guelph, Ont. Arrives about May 6th and leaves about September 22nd. (*A. B. Klugh.*) A specimen was taken at Moose Factory, James bay, in the summer of 1881, by Walter Haydon. (*E. A. Preble.*)

A common summer resident at Aweme, Manitoba. It arrives, on an average of eight years, on May 15th, and leaves about the middle of September. (*Criddle.*) A common summer resident of woodlands throughout Manitoba. (*E. T. Seton.*) A common breeding species, noted in 1906 from Portage la Prairie west to Edmonton. (*Atkinson.*) Only one specimen seen at Medicine Hat, Sask., May 17th, 1894; none at Indian Head in 1891; abundant from the mouth of Lesser Slave river to Peace River Landing, lat. 56° 15′, in June, 1903; common from Edmonton to the crossing of the McLeod river, in June, 1898; first seen, May 14th, 1897, at Edmonton, Alta., by the 22nd they were common in poplar timber on the hillsides along the rivers and streams. Nests finished but no eggs by June 3rd. (*Spreadborough.*) Not rare between Athabaska Landing and Lesser Slave river; first noted May 30th; a few seen at Fort McMurray, lat. 56° 40′. A few individuals at the north end of Methye portage. (*J. M. Macoun.*) This very pretty bird breeds on the banks of the Saskatchewan, and perhaps in still higher latitudes. One was killed at Cumberland House, June 1st, 1827. (*Richardson.*) From Fort Yukon, some distance down the river, this bird is known to breed. Dall tells us that it is common in that region, and on May 30th, secured a single specimen above Nulato; its nesting range extends within the Arctic circle on the Upper Yukon. (*Nelson.*) Osgood took a male at Skagway, Alaska, May 31st, 1899. At Glacier it was tolerably common in the dense woods of spruce

and fir and unquestionably nesting; altogether we noticed about twenty individuals during our stay. Osgood took an adult at the southern end of Lake Marsh, July 1st, and I an adult female and a young female on the west shore of Lake Lebarge, July 14th. This is a new species to the Yukon valley. (*Bishop.*) Accidental on Vancouver island at Esquimault. (*Ridgway.*)

Breeding Notes.—On the 14th June, as I was passing with a team of horses attached to a wagon, along a roadway through the above mentioned wood, my companion directed my attention to the action of a small bird that was seen to flush almost from under the horses' feet, and by her manner of running along the ground, indicated that she had been disturbed off her nest. A little search discovered her home, which contained three young just hatched out; this was a nest of an oven bird, otherwise known as the accenator, or golden-crowned thrush; it was partly sunk in the virgin mould, amid dry leaves and some wild-flower stalks, and under a small branch, and composed of dry leaves and decayed vegetable stalks, and being covered over like a small hut, or oven, was so well concealed that the passer-by, even in searching for it, could fail in most cases to notice it, and this site was only a few inches from where the horses and cattle had walked with heavy steps, and where the wheels of the wagon had sunk deep in the soft earth; it contained three young just hatched; and the mother bird, in leaving it, acted more like a mouse than a creature with wings. (*W. L. Kells.*) A nest with four eggs found on July 1st, 1903, near Ottawa; it was under a bed of dead leaves, roofed over, but with a side entrance, and had the form of an oven; the materials used were leaves and grass; it was six inches long, six inches wide and four inches high; the entrance was three inches wide and one and a half inches high. (*Garneau.*) Breeds at Rice lake, and fairly common at Carleton Junction, Ont.; Mr. Kells has found it nesting at Listowel, in northern Ontario. (*W. Raine.*) The four eggs of this bird are laid about the first part of June in a dome-shaped nest of grasses and leaves placed on the ground in woods of mixed growth. (*W. H. Moore.*) Nests in woods, thickets and swamps at Guelph, Ont.; nest domed, varying much in composition; most nests are composed of dried grass, leaves, twigs and plant stems, lined with leaves and a little hair, the dome being composed of fine wiry grass; some nests are composed almost entirely of pine needles; eggs mostly five in number, pinky-white,

very variable as to markings, but usually spotted and blotched, mostly in the form of a wreath on the larger end, with dark reddish-brown, light brown and pale lavender. (*A. B. Klugh.*) Nest found near Hemlock lake, Ottawa, built on the ground, composed of dead leaves, moss and grass lined with fine grass and rootlets; eggs, four; white, profusely speckled with reddish-brown and lilac. (*G. R. White.*)

675. **Water Thrush.**

Seiurus noveboracensis noveboracensis (GMEL.) BONAP. 1838.

Locally common on the Labrador coast as far north as Aillik. (*Bigelow.*) Several individuals, young of the year among them, were procured by me at Davis inlet, in August, 1884; a specimen was procured at Moose Factory, May 26th, 1860, by Drexler. (*Packard.*) Very abundant all the way down Moose river to Moose Factory; also common at Fort George, on James bay, latitude 54°; rare farther north; one specimen was taken on a river a short distance inland from Richmond gulf ; another individual was seen on the Koaksoak, above Fort Chimo, August 14th, 1896; always found on low, wet ground. (*Spreadborough.*) Abundant along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*) Rather common summer resident at Halifax, N.S.; occurs also at Kentville and Grand Lake. (*Downs.*) A pair seen at Sydney, Cape Breton island, N.S., in 1901. (*C. R. Harte.*) Uncommon summer resident in Nova Scotia. (*H. F. Tufts.*) Observed at Baddeck and Margaree, Cape Breton island, N.S., July, 1898. (*Macoun.*) A few individuals were met with at Tignish, Prince Edward Island, only. It is invariably found along brooks or in their near vicinity. (*Dwight.*) A summer resident, but not a common bird, at St. John, N.B. (*Chamberlain.*) A tolerably common summer resident at Scotch Lake, York county, N.B., breeding in June. (*W. H. Moore.*) Met with frequently in the Restigouche valley, N.B. (*Brittain & Cox.*) Common and breeding at Lake Mistassini, Que. (*J. M. Macoun.*) A scarce summer resident around Montreal; it has been taken at Hochelaga and seen at St. Lambert, but no nests have been taken, though it evidently breeds on the island of Montreal. (*Wintle.*) Not common around Quebec; taken at Beauport. (*Dionne.*)

A moderately common summer resident in the vicinity of Ottawa. (*Ottawa Naturalist*, Vol. V.) I have noticed this bird both in the

counties of Lanark and Leeds, Ont.; in the latter it breeds among the Thousand Islands of the St. Lawrence, as I found a nest as late as July, 1894. (*Rev. C. J. Young.*) A pair taken by Mr. Kay, at Port Sydney, Muskoka, Ont., on May 24th, 1889, is the only record I have for the district. (*J. H. Fleming.*) Common everywhere in the flooded woods at the margins of the lakes in Algonquin park, Ont. Common from Missinabi, Ont. to Hannah river, James bay, and up the west coast of the bay to Raft river. The singing habits of the western form are quite different from the eastern. The former is usually seen perched on a dead twig quite above all the surrounding bushes or on a dead branch of a tall tree, sometimes forty or fifty feet from the ground. The latter is seldom seen except in the thickest of thickets, where I have seen them sing within a foot of the ground. Never have I seen one singing from a dead twig. (*Spreadborough.*) Breeds commonly around Belmont lake, Peterborough county, Ont.; in the fall migration it is sometimes very abundant near Toronto, as was the case from the 12th August to 15th September, 1900. (*J. Hughes-Samuel.*) Common in the migrations at London, Ont.; a few bred in retired localities. (*W. E. Saunders.*) Common summer resident at Guelph, Ont.; arrives about April 30th, and leaves about August 29th. (*A. B. Klugh.*) I have a set of five eggs that was taken by Mr. Kells, at Listowel, western Ontario, on May 22nd, 1890; the nest was built in a cavity of a turned-up tree root in a swamp. (*W. Raine.*)

Breeding Notes.—Nest found on the bank of the Rideau river, near Ottawa; it was built by the side of a log and composed of moss, old leaves and plant stems, intermixed with black rootlets. Eggs, five, white with reddish-brown spots, mostly at the larger end. (*G. R. White.*) Near the centre of the woodland, adjoining Wildwood on the north, is a natural water "runway" where most of the large timber was up-rooted in the terrible wind and ice storm of April, some seven or eight years ago; in one of those up-turned roots, below which there is, in the early season, a deep pool of water, I have on several occasions, in past years, noticed a nest of a water-thrush, and expected this year to take a set of its eggs from a cavity in the same old root, but a delay of several days having occurred after the time when I intended to have visited it for that purpose, I found when I did so on the 28th May, that I was *too late*, the nest was there, but a glance at the four eggs which

it contained showed by their galvanized appearance that they were far advanced in incubation, and I did not remove or revisit them; the cavity in which this nest was placed was small, the bird had either found it ready for her purpose, or had partly enlarged it, and the nest itself was made of weed-stems, dry grass, animal hair, and "hair-moss." Usually when the cavity is large, this species uses a quantity of dead leaves in the construction of her nest. (*W. L. Kells.*) This bird is commoner at Sharbot lake than on the St. Lawrence; here I found a number of pairs breeding in 1903; one pair had a nest and young on a small island, June 12th, 1903. I also found an unfinished nest on a small island in Mosquito lake, North Frontenac, May 28, 1905. (*Rev. C. J. Young.*)

675*a*. **Grinnell Water-Thrush.**

Seiurus noveboracensis notabilis RIDGW. 1885.

We saw our first water-thrush at Painted Stone portage. It was close to the edge of the water and was running through the undergrowth which fringed the foot of a cliff. On the afternoon of the same day, June 26th, we noted another at Robinson portage, and on June 30th, a third at Oxford lake. When we arrived at Oxford House we found the species rather common, and from there to York Factory, as we descended the rivers, its sprightly song was heard daily. A pair seen at a portage on Hill river, July 7th, were feeding young just from the nest. Three specimens were taken in the marshy woods about York Factory, where the species was common July 11th to 17th, and one was taken August 8th by Alfred E. Preble on Churchill river about 15 miles above Fort Churchill. These proved to be intermediate between *novaboracensis* and *notabilis*, but nearer to *notabilis*. (*E. A. Preble.*) A summer resident along watercourses in Manitoba. They were very abundant at Humphrey lake on August 9th, 1884. Evidently preparing to migrate. (*E. T. Seton.*) A common migrant at Aweme, Man., a few may breed. (*Criddle.*) An abundant migrant and an abundant breeder about all the water-courses in Manitoba and noted everywhere in wooded sections along the G. T. P. Ry., west to Edmonton in 1906. (*Atkinson.*) Two specimens from Chemawawin, near Grand Rapids of the Saskatchewan, agree more nearly with the species than with *S. novaboracensis notabilis*. (*Nutting.*)

A specimen of this species was secured in August west of the Sweet Grass hills, on the headwaters of the Milk river. It was again observed in the undergrowth surrounding some reedy pools near Chief mountain. (*Coues.*) This is an abundant spring migrant at Indian Head, Sask., the first individual seen was on May 11th, they became common at once and were abundant in spring for a few days along streams and shores of lakes; one specimen seen at Edmonton, May 15th, 1897, evidently a migrant; common from the mouth of Lesser Slave river to Peace River Landing, in lat. 56° 15′, June, 1903; breeding around Vermilion lakes at Banff, Rocky mountains, July, 1891, rather scarce; one seen on the International Boundary near Rossland, in May, 1902; observed one on the shore of a small lake about 8 miles west of Elko, B.C., May 14, 1904; common in willow thickets on the islands and shore of Elk river, May 21. (*Spreadborough.*) One was taken in the Maple creek, Sask. timber on June 8, 1906, in a wave of migrants. (*A. C. Bent.*) This bird was only seen at Carlton House where it frequented the moist and thickly wooded points of the river. It arrived in May and disappeared in a few days, probably going further north to breed. (*Richardson.*) Common about the Slave river delta in mid-July. (*E. T. Seton.*) North to Lapierre House, on the Mackenzie river; common. (*Ross.*) Two specimens were taken at Ducks, August 7th and 9th, 1889. (*Streator.*) Found breeding along interior streams of British Columbia; Lac la Hâche and Bonaparte river. (*Rhoads.*) Breeding at Quesnel, B.C., and less commonly at 150-Mile House. (*Brooks.*)

The barren coast of Behring sea from the mouth of the Yukon north and south affords it but little shelter in the spring, hence its extreme rarity there in spring. It occurs in spring where the dense growth of bushes about Kotzebue sound affords it available breeding grounds. It is, in fact, one of the commonest bush-frequenting birds we have in the north. (*Nelson.*) Several specimens of this bird were obtained at St. Michael in August, 1876. I have never observed it there during the breeding season. (*Turner.*) The first sound that I heard on the morning of August 1st, when we were on a small island about 10 miles below Sixty-Mile creek, was the unmistakable alarm note of the water-thrush. This was the first time we had met with this species, and before starting that morning on our daily Yukon drift, Osgood and I each secured a

young bird. Near Forty-mile creek, Tatondu river and Charlie creek water-thrushes were again met with. At Circle I saw several August 16th-20th, took one 15 miles above Fort Yukon, August 21, and saw two in a thicket at the Aphoon mouth, August 28th. The young in full plumage taken on the Yukon are clove-brown above, including wings and tail—far darker than is usual in *notabilis*—and have darker streaks below. (*Bishop.*) I have a nest and four eggs taken by Rev. Mr. Stringer at the mouth of Mackenzie river, June 10th, 1899. Nest on the ground under willows near the river bank. (*W. Raine.*) For a few days after our arrival in August at the site of our new winter quarters on the Kowak, Kotzebue sound, Alaska, this species was moderately common. It frequented the alder and willow thickets along the streams and was shy and restless. The species arrived in the spring on May 22nd, and was henceforth common, especially in the Kowak delta in June; but it was not detected west of the tree limit. (*Grinnell.*) An immature male was taken at Homer, Kenai peninsula, Alaska, August 18th, 1901. This is undoubtedly a rare bird at Homer, as one specimen was all I noted. (*Figgins.*) One adult male taken at Seldovia, Alaska. (*Anderson.*)

676. Louisiana Water-Thrush.

Seiurus motacilla (Vieill.) Bonap. 1850.

A rare summer resident in Middlesex co., Ont.; not noted further north. (*W. E. Saunders.*) There are two records for Toronto, Ont., a female taken by Mr. Ernest Seton, Aug. 23, 1888, and another female taken by Mr. C. W. Nash at Kew Beach, East Toronto, May 8, 1900. (*J. H. Fleming.*) The large-billed water-thrush is by no means so common a bird in Ontario as the preceding species, but along the southern border of the province, wherever there is a rocky ravine, its loud, clear notes are almost sure to be heard in the spring, mingling with the sound of the falling water. It arrives from the south early in May and leaves in September. (*McIlwraith.*)

CCLV. OPORORNIS Baird. 1858.

677. Kentucky Warbler.

Oporornis formosa (Wils.) Baird. 1858.

Taken at Quebec by Mr. Nelson. (*Dionne.*) Only one specimen known from near London, Ont.; this was taken by Robert Elliott

near Bryanston in a thicket of well grown thorn trees in May, 1898. (*W. E. Saunders.*)

678. Connecticut Warbler.

Oporornis agilis (WILS.) BAIRD. 1858.

Mr. J. H. Fleming writes me that he once saw a Connecticut warbler at Ottawa. (*Rev. G. Eifrig.*) A rare migrant at London, Ont. (*W. E. Saunders.*) A regular spring and autumn visitor to this district, reaching us about 20th May and leaving for the north a few days later, 30th May being the latest date on which I had noted it; as this bird is with us again before the end of August it is not unreasonable to hope that it will be found nesting at no great distance. While here the bird is very shy and keeps as much as possible to dense under-growths of vines, but when driven to the trees it tries to conceal itself by sitting motionless behind a limb; a curious habit of this bird is to walk slowly along the small branches of a tree peering into every crevice for insects, much after the man ner *Seiurus aurocapillus*. Its song, which I have only heard on two occasions, has considerable merit, and it has also another note not at all unlike the well-known "teacher" of the oven-bird. I saw one or more of these birds daily from 22nd to 30th May, 1900; in the fall they are here during August and may be seen creeping cautiously through borders of *Convolvuli* and *Nasturtiums*; on 18th May, 1896, I took a specimen in Jackson park, Peterboro', Ont. (*J. Hughes-Samuel.*)

A somewhat common summer resident of tamarac swamps in Manitoba; on June 21st, 1883, in the Carberry swamp found a nest and eggs of this species. For full description of this nest and eggs see *The Auk* for April, 1884, p. 192. On June 14th, 1884, at Duck mountain, found one or two pairs breeding in the tamarac swamp near there. (*E. T. Seton.*) A tolerably common summer resident at Aweme, Manitoba, arriving about the middle of May and leaving about Sept, 7th. (*Criddle.*) Regular but not very common in migration in Manitoba, breeds in some numbers in tamarac swamps in the northern portion of the province. Noted breeding in 1906 at Battle river, Alta. (*Atkinson.*) The writer paid a visit to the swamp south of Carberry in June, 1896, and had the good fortune to secure a nest on the outskirts of the bog and almost on a level

with the water. It contained one egg and three very young birds; there seemed no scarcity of excited birds as I floundered through the bog.

679. **Mourning Warbler.**

Oporornis philadelphia (WILS.) WOOLSEY. 1880.

One specimen obtained at the Fiskinæes in 1846, another at Julianshaab in 1853. (*Arct. Man.*) Rare about Halifax, but common in the interior of Nova Scotia as a summer resident. (*Downs.*) Rare summer resident in Kings co., N.S. (*H. F. Tufts.*) Apparently rare on Prince Edward island, though a few were found at Souris in the bushy edges of dry fields, adjoining woods. (*Dwight.*) A rare summer resident at St. John, N.B. (*Chamberlain.*) Not uncommon in the upper part of the Restigouche valley, N.B. (*Brittain & Cox.*)

A rare species around Quebec; taken at Beauport. (*Dionne.*) Transient and scarce visitant around Montreal. Has been shot at Outremont and Hochelaga. (*Wintle.*) A moderately common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) A few of these birds breed in the county of Leeds, Ont. I met with the nest on 31st May, 1893, containing four eggs much resembling those of the yellow-throat. A peculiarity of the nest, and one I believe generally observed, is that it is lined with black fibres and rootlets and not as the yellow-throat with fine grass and hair. This bird is a common species during migrations on the Magdalen islands and probably breeds there also. (*Rev. C. J. Young.*) A fairly common resident in Parry Sound and Muskoka districts. It is one of the latest arrivals in spring. Regular migrant at Toronto, not uncommon; rare summer resident, breeds. (*J. H. Fleming.*) Quite common along the Parry Sound railway in Algonquin park, Ont., always in dry thickets. Common in low bushes along the C. P. Ry. at Missinabi, Ont.; one seen about 100 miles down the Missinabi river. (*Spreadborough.*) A not uncommon summer resident all over western Ontario. (*W. E. Saunders.*) Uncommon; but perhaps considered more so than it really is as the bird is such an adept at keeping out of sight. Still if one knows their haunts and reaches them about 18th to 24th May he may see a few if he will only sit down close to the ground and keep quiet; though on

walking through one of their favourite retreats one can be almost sure to hear the warning or scolding notes of any birds that may chance to be disturbed. Any that I have heard singing have been invariably perched on a dead branch well up from the ground. On seeing that they are observed they will dart to thick cover, in which case one is not likely to see them again for some time. On 30th July, 1895, I met with a party of adults and young in a thick patch of cedars a few miles west of Toronto. From 11th to 30th May, 1899, I saw from one to six almost daily. (*J. Hughes-Samuel.*) Fairly common during migrations, and breed in fair numbers. Arrives about May 16th and leaves about September 1st. (*A. B. Klugh.*)

I was agreeably surprised to find this species breeding abundantly at Pembina. At the end of June I found a nest supposed to be of this species but the identification was not at all satisfactory. (*Coues.*) A common summer resident of scrub lands, throughout Manitoba. (*E. T. Seton.*) A tolerably common summer resident at Aweme Manitoba; arrived May 24th, 1903, and disappeared early in September. (*Criddle.*) This species was seen at Old Wives creek, eastern Saskatchewan, in May, 1895. (*Spreadborough.*) A common breeding species throughout Manitoba in the wooded districts; noted west of that province in 1906 at Touchwood hills and Saskatoon, Sask., and Battle river, Alta. (*Atkinson.*) A possible hybrid of this species and *O. tolmiei* was taken at Grand rapids of the Saskatchewan. (*Nutting.*) This was a common species round Lake Manitoba in June, 1881. A nest was taken at the "narrows" on June 16th. (*Macoun.*)

Breeding Notes.—On June 14th, 1902, a nest with four eggs was found in a damp place near Montreal. It was built in a clump of golden rod three inches above the ground and composed of grass stems and leaves lined with thin black rootlets and hair. Nest 4 x 3 and 2.25 x 1.75. Another nest was found in the forks of a small bush, the brim six inches from the ground and made of dried leaves, grass and bark, with a lining of hair-like roots, nest 4.25 x 3 and 2.25 x 1.75. (*Garneau.*) Nest found near Tetreauville, Hull, Que., in a low bush, rather large for the size of the bird, composed of moss, leaves and other vegetable matter, lined with grass and

rootlets. Eggs 4, white, slightly sprinkled at the larger end with brown. (*G. R. White.*) Mr. Ottomar Reinecke, of Buffalo, has taken several sets of this species in the Niagara district, Ont. I have found a set of four that he collected at Sherkstown, Welland county. The nest was built in a tussock of grass one foot from the ground. (*W. Raine.*) I met with a nest near Lansdowne, Leeds county. June 2nd, 1892. It was located in a rocky place among branches and ferns near some large woods. It was a somewhat loosely built structure of weeds, leaves and dry grass, lined with some fibres and black hair hardly 12 inches above the ground and well concealed. (*Rev. C. J. Young.*)

680. **Tolmie Warbler.**

Oporornis tolmiei (TOWNS.) RIDGWAY. 1902.

A single specimen of this species was secured in the Rocky mountains in August, near Chief mountain. (*Coues.*) I saw a few in the Cypress hills, Sask., May 31st, 1905 but none were collected. Bishop found it common there in families from July 25th to 30th in 1906. (*A. C. Bent.*) Quite common in the brush along the upper branches of Swift Current creek in the east end of the Cypress hills, Sask.; a nest was taken on June 25th, 1894, it was placed under the root of a turned-up tree on a few dead sticks about six inches from the ground and contained four eggs nearly hatched; nest very bulky, composed of reeds, lined with a little horse hair and dry grass; on June 11th, 1895, this species was taken at Wood mountain post, Sask., and seen at Medicine Lodge, near the 49th parallel a few days later; very common in all the wooded ravines on the south side of the Cypress hills, a nest was taken on the 26th June along a creek in the hills; seen on the West Bute, Sweet Grass hills and at Waterton lake, on the 49th parallel, in July, 1895; quite common and breeding at Banff, Rocky mountains, in the summer of 1891; first seen at Edmonton, Alta., June 3rd, 1897, not common, found chiefly along the high banks back of the river where there is plenty of dead brush, they breed here without doubt; observed from Lesser Slave lake to Peace River Landing in June, 1903; seen in the foothills south of Crow Nest pass; seen at Revelstoke, B.C., May 21st, 1890; they soon became common close to the ground and commenced to breed, later they were found at Deer Park and Robson, on the

Columbia river, where they were common; occasional on the north bank of the Thompson at Kamloops in June, 1889; abundant in low woods at Agassiz, B.C., after May 9th, 1899; common along the International Boundary in 1904–6 from Elko, B.C., went to the coast; abundant at Chilliwack, B.C., in the spring of 1902; none were seen in the autumn; first observed two males near Victoria, Vancouver island, May 9th, 1893; by the 11th of the month they were common and soon spread all over the island, being found at Sooke, Nanaimo and Comox. (*Spreadborough.*) Common summer resident in B.C.; breeds. (*Streator.*) A common summer resident throughout the greater protion of the province. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) Found breeding in British Columbia at all localities and at all elevations. (*Rhoads.*)

CCLVI. **GEOTHLYPIS** Cabanis. 1847.

681*d*. **Northern Yellow-throat.**

Geothlypis trichas brachidactyla (Swains.) W. Palmer. 1900.

Common in southern portions of Labrador. Stearns reports it from Natashquan. (*Packard.*) A common summer migrant in Newfoundland. (*Reeks.*) An abundant summer resident at Halifax, N.S.; breeding in wet places. (*Downs.*) Common summer resident in Nova Scotia. (*H. F. Tufts.*) One individual taken on Sable island, N.S., May 23rd, 1902. (*J. Boutelier.*) A pair seen at Sydney, Cape Breton island, N.S., May 25th, 1901. (*C. R. Harte.*) Common at Baddeck and Margaree, Cape Breton island, July, 1898; Hunter river, Prince Edward island, July 2nd, 1888. (*Macoun.*) Found sparingly in the western portions of Prince Edward island. (*Dwight.*) Common near St. John, N.B., throughout the summer season. (*Chamberlain.*) Common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Rare in the valley of the Restigouche river, N.B. (*Brittain & Cox.*) Probably on the Magdalen islands; not seen but heard. (*Bishop.*) Met with at Fox bay, Anticosti, where two specimens were seen. (*Brewster.*)

This is the most common warbler in eastern Quebec; taken at Beauport. (*Dionne.*) A common summer resident on Montreal island. Breeds in Mount Royal park. (*Wintle.*) A common summer resident in the vicinity of Ottawa. (*Ottawa Naturalist,*

Vol. V.) A very common warbler about Lansdowne, Leeds county, Ont., where after the yellow warbler it is the most frequently seen of all others. I have found its nest several times, usually built in long grass and brush a little above the ground, sometimes as much as twelve inches. I have seen eggs in May, June and July. This species was also common on the borders of a marsh on Amherst island, Lake Ontario. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont., common; rare summer resident. A fairly common summer resident in Parry Sound and Muskoka districts; arrives about the same time as the mourning warbler. (*J. H. Fleming.*) Only one individual observed on Moose river, near Moose Factory, June 7th, 1896; not common in Algonquin Park, Ont.; found in low wet ground amongst grass and low bushes. Saw a nest with four young about a week old in a clump of grass in a marsh on June 26th, 1900. (*Spreadborough.*) Generally abundant about Toronto. I have found it in great abundance in all suitable places near Peterborough, Ont. (*J. Hughes-Samuel.*) Common summer resident at Guelph, Ont. Arrives about May 10th and leaves about September 16th. (*A. B. Klugh.*)

Observed at Pembina, on Turtle mountain, and in the Rocky mountains, but not in the open country between these points. (*Coues.*) An abundant summer resident in the wooded portions of Manitoba; the Maryland yellowthroat is an abundant resident at Duck mountain, Man.; its favourite haunts are low damp thickets, so that it is in a measure the complementary species of the mourning warbler, which manifests a liking for none but the driest of copses. (*E. T. Seton.*) This is a common breeding summer resident at Aweme, Manitoba; arrives about May 20th and stays to September. (*Criddle.*) Regular and tolerably common migrant in Manitoba, breeding in suitable scrub and bush localities. (*Atkinson.*) This is a summer resident at Indian Head, Sask.; it was first seen May 21st, 1892, and became common in a few days; they breed in considerable numbers, nesting in rushes about a foot from the ground on the edge of small lakes; first seen at Medicine Hat, Sask., May 15th, 1894, they never became common; late in June the same year they were very common in all the willow thickets bordering the upper branches of Swift Current creek in the east end of the Cypress hills; one specimen was shot at 12-Mile lake, near Wood mountain, Sask., June 6th, 1895; later in the month it was

taken on Rocky creek near the 49th parallel and on Frenchman river; it was common in the Cypress hills wherever there was brush, and the same in the Milk river valley and along St. Mary river and at Waterton lake; first seen at Edmonton, Alta., May 27th, 1897, common and nesting in the willows by June 1st; common from Edmonton to the summit of the Rocky mountains in Yellowhead pass in July, 1898, breeding in willow thickets on the borders of marshes; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, in June, 1903; quite common in the foothills from Calgary southward; a nest containing four eggs was found on Bragg creek on June 28th, 1897, in a tuft of grass, nest made of dry grass; this was a common species at Banff, within the Rocky mountains in June, 1891. (*Spreadborough.*) Many of the references to Saskatchewan and Alberta probably should go with *arizela.*

Breeding Notes.—Breeds at Ottawa and Lake Nominingue, 100 miles north of it, from the middle of May to the middle of July. Nests in swampy places and undergrowth, on or near the ground, hidden among reeds, weeds and small bushes; they are made of reed-stalks, grasses and leaves, lined with fine grass and sometimes a few hairs; two nests were found in reed-plants having the form of inverted cones five inches long. Nests average 4 x 3 and 2 x 1.50. (*Garneau.*) Nests are built in low bushes close to the ground at Ottawa, composed of dead leaves and grass, lined with fine grass, hair and rootlets. Eggs 4 to 6, white, sparingly sprinkled at larger end with brown. (*G. R. White.*) The nests I have seen contained eggs the first week in June; the nest is well concealed, but I have seen two, which were six or eight inches above the ground; one of these was in a small elm sapling, around which long rank grass grew; I could not assign the nest to any other species as the eggs were similar to others I had seen and a male bird was hopping about in the immediate vicinity. (*Rev. C. J. Young.*)

681*b*. Pacific Coast Yellow-throat.

Geothlypis trichas arizela Oberholser. 1899.

Uncommon in the underbrush along the creeks in the Cypress hills, Sask., and in the drier parts of the sloughs. Dr. Bishop referred all the birds taken to this sub-species. (*A. C. Bent.*) Pacific

coast region of southern British Columbia to California. Taken at Comox, Vancouver island. (*Oberholser.*) First seen at Revelstoke, B.C., on May 15th, 1890, later they became common and commenced to breed, the males were very much in evidence; late in June they were found breeding at Robson, on the Columbia river; one individual was observed in a marsh at Sheep creek, on the International Boundary in May, 1902; quite common in thickets along the North Thompson at Kamloops, B.C., in June, 1889; very common in wet woods at Agassiz, B.C., in May, 1889; observed a number at Chilliwack, B.C., in the spring of 1901; saw one at Huntingdon on the International Boundary, B.C., in autumn; rather rare on Vancouver island, a few taken in 1893; common in reeds by small lakes near Elko, B.C. in 1904; common in the marshes at Osoyoos lake and along the Similkameen river in 1905, also along the Hope trail. (*Spreadborough.*) Common everywhere; breeds. (*Streator.*) A common summer resident throughout the greater portion of the province. (*Fannin.*) An abundant summer resident at Chilliwack. (*Brooks.*) Rare on Vancouver island, abundant at Lulu island in the Fraser valley, and about the shores of reedy lakes in the interior of British Columbia. (*Rhoads.*)

CCLVII. **ICTERIA** Vieillot. 1807.

683. Yellow-breasted Chat.

Icteria virens virens (Linn.) Baird. 1865.

The only specimen of this species I ever collected was on 16th May, 1884, when I found a dead individual near my house where it was probably killed by a telegraph wire. A week or so afterwards, when visiting Mr. Dickson, who is station master on the G.T.R. at Waterdown, he pointed out to me an old, unused millrace, grown up with briars and brambles, where the day before he had seen a pair of chats mated. Mr. Dickson was collecting at the time, and was greatly surprised at the sudden appearance within ten feet of where he was standing, but on his moving backwards, with a view of getting to a safer shooting distance, they disappeared in the thicket and did not again become visible, though they kept up their scolding as long as he remained near the place. A pair of this species was also found by Mr. Saunders breeding on the north shore of Lake Erie, near Point Pelee in 1884, which completes the record for On-

tario, so far as I have heard. (*McIlwraith.*) Mr. John Boyd, of Sarnia, has a specimen which he believes was taken at the Humber in 1889 but he was never able to trace the bird back to the original collector. (*J. H. Fleming.*) This has been found to be a constant and not very rare resident of the vicinity of Pelee point, Lake Erie. (*W. E. Saunders.*) Mr. P. A. Taverner's paper on the occurrence of this species in Michigan should be read in this connection. See *The Wilson Bulletin*, Vol. xviii., p. 17.

683*a*. **Long-tailed Chat.**

Icteria virens longicauda (LAWR.) COUES. 1872.

In the bushes which line the banks of the Thompson river, below Ashcroft, B.C., I secured two males of this species; another was heard singing on a ranch above the town. (*Rhoads.*) Two taken in bushes along the Similkameen river, B.C., near its mouth, June, 1905. (*Spreadborough.*) From Kamloops south through the Okanagan district of B.C. (*Fannin.*) Sumas, in the Fraser river valley, 26th May, 1897. (*Brooks.*)

CCLVIII. **WILSONIA** BONAP. 1838.

684. **Hooded Warbler.**

Wilsonia mitrata (GMEL.) BONAP. 1838.

Mr. Norval reports finding this species occasionally, at Port Rowan, on the north shore of Lake Erie, and I once found a young male near Hamilton, Ont. It was found towards the end of May when there had been a big bird-wave the previous night, and this one had been apparently carried away in the crowd. (*McIlwraith.*) A specimen of this warbler, rare in Ontario, was captured at Cataraqui, near Kingston, Ont., and is now in the collection of a resident there. (*Rev. C. J. Young.*) Some specimens were taken in the spring by Atwater near Rondeau, Ont., about 1884. One was taken in May, 1906 near Woodstock, Ont., by Mr. J. A. Cole. (*W. E. Saunders.*)

685. **Wilson Warbler.**

Wilsonia pusilla pusilla (WILS.) BONAP. 1838.

Audubon, Vol. II., p. 21, records it as breeding in Labrador, and a nest obtained. (*Packard.*) Common at Moose Factory, June 9th,

1896; observed one at Fort George, on James bay, 150 miles further north, on June 20th; none seen afterwards. (*Spreadborough.*) A summer migrant in Newfoundland, but not very common. (*Reeks.*) Abundant along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*) Rare summer resident at Halifax, N.S. (*Downs.*) Common summer resident at Kings county, N.S. (*H. F. Tufts.*) One specimen was secured at Tignish, Prince Edward island, in an extensive arbor-vitæ and alder swamp. Not common at Baddeck, Cape Breton island, in 1887. (*Dwight.*) An uncommon summer resident at St. John, N.B. (*Chamberlain.*) Has been taken at Petitcodiac, and observed at Fredericton, N.B. (*W. H. Moore.*) Only observed twice at Ellis bay, Anticosti, when the old ones were feeding young fledglings. (*Brewster.*)

Met with in the woods around Quebec; taken at Beauport (*Dionne.*) A transient and scarce visitant at Montreal. Observed only in spring. Has been seen as late as July 13th on the island of Montreal. (*Wintle.*) A moderately common summer resident around Ottawa. Found breeding in the Mer Bleue, 3rd July, 1890, by Messrs. W. E. and F. A. Saunders. (*Ottawa Naturalist*, Vol. V.) A rare migrant in eastern Ontario. Not uncommon on the Magdalen Islands and frequently observed about Mingan, Que., in June, 1898, where they breed. (*Rev. C. J. Young.*) The only record I have for Parry Sound and Muskoka districts is that of a male which I took on the Magnetawan river, near Emsdale, on 20th May, 1897. (*J. H. Fleming.*) I notice it around each spring at Toronto about the third week in May, and in the fall they sometimes become very abundant, choosing usually willows near the banks of a stream. I have seen such places alive with these birds from 21st August to 9th September. (*J. Hughes-Samuel.*) A rare migrant in Middlesex county, Ont. A single male was noticed in full song in North Bruce on 20th June, 1900, where it was doubtless breeding. (*W. E. Saunders.*) Fairly common during migration at Guelph, Ont. Seen about May 18th and again about August 27th. (*A. B. Klugh.*) Rather common in the undergrowth bordering a swamp at Robinson portage, June 27th, 1901. Several were seen at York Factory, July 10th to 17th, one being taken July 14th. (*E. A. Preble.*)

A common species eastward, but only observed on the 49th parllael in the Rocky mountains near Chief mountain. (*Coues.*) A

rare migrant in eastern Manitoba. Near Long river, Man., I saw a black-capped warbler on May 21st, 1882, my only record, though others claim it is a summer resident. (*E. T. Seton.*) Found at Grand rapids and Chemawawin on the Saskatchewan. (*Nutting.*) One pair seen at Fort McMurray, lat. 56° 40′; common on the Methye portage; common between Methye portage and Isle à la Crosse. (*J. M. Macoun.*) Tolerably common in migration at Aweme, Man., may breed. (*Criddle.*) An abundant migrant in all the wooded districts of Manitoba breeding in suitable locations; also observed in 1906 at Wainwright and Battle river, Alta. (*Atkinson.*) Three individuals were seen on May 15th, 1894, at Medicine Hat, Sask., and later a few more; first seen at Edmonton, Alta., on May 29th, 1897, a few pairs remained to breed; quite common and breeding at Banff, Rocky mountains, in June, 1891; abundant at Revelstoke, on the Columbia river, from May 15th, 1890, nested in the woods in large numbers; observed one individual on the International boundary near Trail in May, 1902. (*Spreadborough.*)

North to Lapierre House on the Mackenzie river; very rare. (*Ross.*) Preble collected one at Last woods, Artillery lake, August 5th, 1907. (*E. T. Seton.*) This is one of the commonest brush-frequenting species in the north and extends its breeding range to the shores of the Arctic ocean where it is found breeding about Kotzebue sound as well as along the entire coast of Norton sound, wherever shelter is afforded. (*Nelson.*) The series of Wilson's warbler taken in eastern and western British Columbia compared among themselves and with specimens from the Atlantic states are devoid of any differences which would justify their separation. (*Rhoads.*) A single specimen of this species was captured by a native in the bushes which skirted a lake about a mile distant from the redoubt at St. Michael; it is not a common bird in that vicinity, occurring only in the fall migrations; other specimens were obtained from Fort Yukon and Nulato, where it is not rare. (*Turner.*) Osgood took an adult female near the Chandindu river, Aug. 4th, 1899, and I a young female near Charlie Village, Aug. 11th, and a young male 25 miles above Circle City, Alaska, August 20th. These birds, while not typical *pusilla*, are, like those of the lower Yukon, nearer it than *pileolata*. (*Bishop.*)

Breeding Notes.—On June 14th, 1893, I found a nest and four eggs of this species and secured the parent. The nest was built

on the ground in a willow swamp in a clump of herbage on the edge of Vermilion lake at Banff, Alberta. (*W. Raine.*) Nest, in a hemlock tree near the ground in woods near Ottawa, composed of dry moss and twigs compacted together; lined with fine fibre and fine grass; eggs 4, dull white, sprinkled with reddish and brown dots towards the larger end where the markings form a circle, leaving the extremity plain. (*G. R. White.*) This is a rare warbler in Ontario; a nest was taken in the vicinity of Lansdowne, Leeds county, in June, 1894 not very far from the St. Lawrence; there were four eggs in this nest, which was built on the ground; they were small and white, thickly marked with fine brick-red spots. (*Rev. C. J. Young.*)

685*a*. Pileolated Warbler.

Wilsonia pusilla pileolata (PALL.) COUES. 1880.

Common at Sidley, B.C. in 1905 and at Douglas in 1906; rather rare at Agassiz, B.C., in May, 1889; observed at Chilliwack, B.C. and along that river to the head of Chilliwack lake in the summer of 1901; first seen on May 7th, 1893, near Victoria, Vancouver island, by the 14th they were common in all the willow thickets; they were seen at Sooke, Nanaimo, Comox and other points and are a common summer resident on the island. (*Spreadborough.*) British Columbia. (*Lord.*) More common in the coast region than in the interior; breeds. (*Streator.*) A common summer resident, chiefly west of the Coast range. (*Fannin.*) A tolerably common summer resident at Chilliwack. (*Brooks.*) As early as May 12th, these birds have been found feeding their young in Oregon; from this region it extends north and occupies the entire Pacific shore of the Alaskan mainland. (*Nelson.*) An adult male was taken at Sitka, Alaska, on August 18th and several others including juveniles seen on August 21st; they were in low brush along the shores of a secluded bay where they possibly breed. (*Grinnell.*) We found this the most abundant bird at Glacier, June 5-10, frequenting the alder thickets from the valley as far as they extended up the hills; I saw a yellow warbler I thought of this species on White pass summit, June 12th; pileolated warblers were common at Log Cabin, Bennett, and Cariboo Crossing, and I am confident I heard them singing at Lake Marsh; adult males from Glacier resemble normal

pileolata closely, but have the back rather more green; those from the Yukon valley, while having the orange forehead and lower parts of this form, have the duller green back of *pusilla*. (*Bishop.*) The pileolated warbler is undoubtedly the commonest species of warbler found in the Kenai region, Alaska. (*Figgins.*) Taken at Muller bay, Seldovia and Sheep creek, Alaska. (*Anderson.*)

685*b*. Golden Pileolated Warbler.

Wilsonia pusilla chryseola Ridgway, 1902.

Mount Lehman near New Westminster, B.C. (*Ridgway.*) Mixed with *pileolata* on Vancouver island, one taken May 1, 1893. (*Spreadborough.*) Some of the references under *pileolata* should probably go here.

686. Canadian Warbler.

Wilsonia canadensis (Linn.) Coues. 1880.

Fairly common summer resident in Kings county, N.S. (*H. F. Tufts.*) Audubon, Vol. II., p. 15, reports it as breeding in Labrador. (*Packard.*) A not uncommon summer migrant in Newfoundland. (*Reeks.*) Rather common about Tignish, Prince Edward island, but not met with elsewhere. (*Dwight.*) An occasional summer resident at St. John, N.B. (*Chamberlain.*) A tolerably common summer resident, frequenting moist woods and shrubbery, at Scotch Lake, York county, N.B. (*W. H. Moore.*) Occurring occasionally in the valley of the Restigouche river, N.B. (*Brittain & Cox.*)

An infrequent visitor in eastern Quebec, taken at Beauport. (*Dionne.*) A scarce summer resident around Montreal; observed from May 20th to September 2nd; a few breed. (*Wintle.*) A moderately common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) Frequently met with about Kingston, Ont.; a few remain to breed in the district. (*Rev. C. J. Young.*) A common summer resident in Parry Sound and Muskoka districts. (*J. H. Fleming.*) Common everywhere in Algonquin park, Ont. in thick woods, usually seen near the ground; one individual seen at Moose Factory, James bay, June 11th, 1896. (*Spreadborough.*) Common during migration at Toronto, Ont., but less so during the summer. (*J. Hughes-Samuel.*) A fairly common breeder in suitable swampy

thickets around London, Ont. (*W. E. Saunders.*) Common summer resident at Guelph, Ont.; arrives about May 11th, leaves about August 28th. (*A. B. Klugh.*)

A summer resident of wooded hillsides in Manitoba, but its habits are not very well known; has been found more frequently to the north of Manitoba. (*E. T. Seton.*) A rare summer resident at Aweme, Manitoba; arrives about May 20th and leaves about last of August. (*Criddle.*) A common migrant and tolerably common breeding species under favourable conditions in Manitoba. (*Atkinson.*) A single specimen of this bird was killed in June at Cumberland House; it was in a dense thicket of alder, perched near the ground. (*Richardson.*) One specimen secured at Grand Rapids and another at Chemawawin, Saskatchewan river. (*Nutting.*) One specimen taken at Moose Factory, James Bay, by Mr. Walter Haydon, in the summer of 1881. (*E. A. Preble.*) Not observed anywhere west of Manitoba except at Edmonton, Alta., where a few were observed and one taken May 29th, 1897. (*Spreadborough.*)

Breeding Notes.—June 12th, 1902, I found this bird nesting at Rice lake, Ont.; nest in a cavity of a fallen tree root in deep woods. (*W. Raine.*) Nests near Ottawa and at Lake Nominingue, 100 miles north of Ottawa, in June and July; it is built on the ground in the woods, and made of dried leaves, lined with fine grass, strips of bark and hairs; the walls are thin for a nest made of leaves. (*Garneau.*)

On the 28th of May, when passing the "old root" of a fallen tree I discovered the newly made nest of a small bird, which at first I thought might be that of a mourning warbler, whose scolding notes I heard near by; on the 5th June, when I thought the set of eggs would be deposited I revisited the place; on the nest sat the mother bird, and there she remained until I almost touched her with my hand, then she flushed out, making some attempts to draw off my attention, and uttered a few sharp "chips" and I saw at once that she was a Canadian warbler; the nest then contained five eggs, and incubation had begun; the nest was placed in a cavity among the rocks, only a few inches above the more level earth, and was composed of dry leaves, strips of bark, and other fine vegetable fibres, and lined with some long horse hair; when placed side by side with that of *M. varia* previously described, I made this comparison of the nests and their sets of eggs, after the latter are blown; the nests—

in composition and size— are very much alike; both are rather loosely put together, but there is quite a distinguishing difference in the eggs; those of *M. varia* are actually the largest, and more globular in form, and the ground colour more of a chalky whiteness, and the spotting more of a brownish hue; with a general tendency to form a wreath about the larger end, and be distributed over the surface, even to the smaller point; the eggs of the Canadian warbler have a clear white hue, with a beautiful rosy blush, and the colouring which clouds the whole of the larger end of each egg, has more of an orange tinge than either reddish or brown, the dotting on the surface is more separated, and the approach to the smaller point more devoid of dotting than are those *M. varia*, but in all the specimens the variations are so numerous that it is difficult to describe them; this species is very local in its distribution, being generally found to frequent the borders of swampy woodlands, having much the same habitat as the water-thrush and *M. varia*, but here it is more abundant than either of the other species, and seems more disposed to explore the underwood of the higher hardwood lands and nests on more level ground; altogether about a score of the nests of this species have come under my observation in my woodland rambles in the vicinity in the past twenty years; and, as in the case of the water-thrush, black-and-white warblers, and several other species, several of these nests were in cavities previously prepared for them. (*W. L. Kells.*)

CCLIX. **SETOPHAGA.** Swainson. 1827.

687. **American Redstart.**

Setophaga ruticilla (Linn.) Swains. 1827.

A poor skin was shown Mr. A. Halkett at Port Burwell by the factor of the station showing that this species occasionally reaches the north of Labrador. (*Rev. G. Eifrig.*) A specimen was taken at Rupert House, September 3rd, 1860, by Mr. James McKenzie. (*Packard.*) Common all along Moose river to James bay. On June 9th, found a nest with two eggs in a white birch about four feet from the ground. Nest composed of fine bark lined with the down of some plant. (*Spreadborough.*) A summer migrant but rare in the north of Newfoundland. (*Reeks.*) An abundant summer resident

in Nova Scotia. (*Downs*; *Tufts.*) Common at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; in woods along Rustico bay, Prince Edward island, June, 1888. (*Macoun.*) An abundant summer resident on Prince Edward island. (*Dwight.*) A common summer resident in New Brunswick. (*Chamberlain.*) Tolerably common resident of Scotch Lake, York county, N.B. (*W. H. Moore.*) An abundant summer resident on the Magdalen islands. (*Bishop.*) Not uncommon at Ellis and Fox bays, Anticosti, and others at Mingan, on the north shore of the St. Lawrence. (*Brewster.*) Common in the Restigouche valley, N.B. (*Brittain & Cox.*)

A rather common summer resident in eastern Quebec; taken at Beauport. (*Dionne.*) An abundant summer resident around Montreal. Breeds in the city and in Mount Royal park. Observed from May 11th to August 29th. (*Wintle.*) Common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) A common warbler around Lansdowne, Leeds county, Ont. I have found the nest in the crotch of a maple sapling or other tree from six to twenty feet from the ground. They are also common on the Magdalen islands where I observed them in June, 1897. (*Rev. C. J. Young.*) One of the most common summer residents in Parry Sound and Muskoka districts. (*J. H. Fleming.*) Common in thickets along streams and around lakes in Algonquin park, Ont., 1900. (*Spreadborough.*) Abundant around Toronto, Ont., breeds. (*J. Hughes-Samuel*; *J. H. Fleming.*) Common as a migrant at Guelph, Ont. A few pairs breed. Arrives about May 12th, and leaves about September 1st. (*A. B. Klugh.*) An abundant spring migrant at Penetanguishene, Ont. (*A. F. Young.*)

Very abundant at Pembina where it breeds. Not observed any further west along the 49th parallel. (*Coues.*) A common summer resident in Manitoba. It seems to be abundant in all the wooded parts of the province. Took a nest on Duck mountain, June 8th, 1884. It was placed in a low fork of a sapling. (*E. T. Seton.*) A common summer resident at Aweme, Manitoba; arrives about May 15th, leaves about September 16th. (*Criddle.*) An abundant breeding species all over Manitoba and observed by me as far west as Saskatoon, Sask. (*Atkinson.*) A few were seen at Maple creek, Sask. Probably a common migrant. Four males and one female were seen at Medicine Hat, Sask., May 17th, 1894, they never became

common; common at Old Wives creek, Sask., May, 1895; it was evidently breeding at 12-Mile lake, near Wood mountain, Sask., June 6th, 1895; a few individuals were seen at Waterton lake in July, 1895; common in thick woods from the head of Lesser Slave lake to Peace River Landing, in lat. 56° 15′, in June, 1903; first seen at Edmonton, Alta., May 29th, 1897, common by June 1st, soon commenced nesting along the river and smaller streams; common in willow thickets from Edmonton to Athabaska pass in June, 1898; one observed at Crow Nest lake, Rocky mountains, July 28th, 1897, and breeding at Banff, Rocky mountains, in July, 1891; a few seen at Revelstoke, B.C., in May, 1890; in June they were found nesting in low thickets on small poplar trees at Deer Park and Pass creek, near Robson on the Columbia river; one observed at Rossland, B.C., in 1902; one seen at Osoyoos lake, June, 1905. (*Spreadborough.*) One pair seen at Lac La Biche river, 30 miles below Athabaska Landing, Alta. In June and July, 1889, it was abundant at Kamloops and along the North Thompson river, B.C.; rather rare at Enderby near Sicamous, B.C. (*J. M. Macoun.*)

This beautiful bird is found in summer as far north as lat. 58°. It frequents moist shady places in the Northwest Territories, flitting about among the moss-grown stems of the tall willows that skirt every marsh in these quarters. (*Richardson.*) North to Fort Good Hope on the Mackenzie river; common. (*Ross.*) British Columbia. (*Lord.*) Common summer resident in the interior; breeds. (*Streator.*) Found throughout the province, but nowhere common. (*Fannin.*) Well represented all over the interior of British Columbia. (*Rhoads.*) Regularly east of, and accidentally west of, the Coast range in British Columbia. Breeding throughout the Cariboo district of British Columbia. (*Brooks.*)

Breeding Notes.—In June and July nests with eggs are found around Ottawa and Lake Nomininge, 100 miles north of it, in bushes and trees from four to twenty feet high; they are made of flexible bark, ornamented on the outside with the white bark of the birch, and are often lined with a few feathers or hairs, Nests 2.50 x 2.50 and 2 x 1.50. (*Garneau.*) Builds an elegant nest in upright crotch from 5 to 25 feet from the ground; nest is composed of plant down and vegetable fibre and bark strips, lined with fine grass, rootlets and a little hair; eggs 4, white, thickly sprinkled over

and spotted with brown, lilac and purplish. (*G. R. White.*) They nest in June, building in upright crotches in bushes 10-20 feet up; white birches seem to be the favorite tree for their nests, probably on account of the position of the limbs; the nest is firmly constructed of strips of bark, grasses and plant down, lined with hair; eggs 3 or 4. (*W. H. Moore.*) This is one of the commonest warblers in Leeds county, Ont.; I have frequently seen the nest placed in some crotch of a small tree from five to twenty feet from the ground; the eggs are laid the first week in June. (*Rev. C. J. Young.*)

Many nests of this species in past years have come under my observation; but it is only of those noted the present season that I purpose here to speak; on May 22nd I noticed a female redstart flying from a partly composed nest, the site of which was in the fork of a small maple sapling, and at an elevation of about eight feet from the ground; the nest could be easily seen, when the searcher's gaze was directed to it, at a distance of four rods; the woods around it were rather open, and the leaves of the sapling were a yard or more above it; eight days after I found that this nest contained four of the warbler's own eggs and one of a cowbird, all of which were fresh; of all the warblers, the nest of this species is about the neatest and most firmly put together, the bird evidently emitting a good deal of saliva upon the material of which the nest is composed when she is placing the fragments in position; all this work, as well as that of incubation, appears to be done by the female, though it is probable that her more beautifully plumaged consort occasionally supplies her with food as she incubates her eggs; and he certainly largely assists in feeding the young and in trying to defend them if exposed to danger; if the first efforts of this bird to propagate its species are successful, it does not nest more than once in the season, otherwise it will nest a second time; the materials of which the greater part of the nest of the redstart is composed is a kind of fibre gathered from decaying timber and the seed pods of various kinds of vines, and it is usually lined with animal hair; I have never known the set of eggs to exceed four in number, and generally the second set contains only three, with the addition mostly of a cowbird's; the eggs are of a whitish ground hue, marked towards the larger end with a wealth of spotting of a flesh-coloured hue, and smaller dots of the same hue scattered over the surface; another bird of this species was noticed building her nest at a much

higher elevation deeper in the wood, and even in a more exposed position; but a few days after the nest was completed it wholly disappeared, and I suspected that an olive-sided fly-catcher that had made her nest on an overhanging branch, a few rods off, was the author of that. Other nests were observed, but there was nothing specially noteworthy about them. (*W. L. Kells.*)

Family L. **MOTACILLIDÆ.** Wagtails.

CCLX. **MOTACILLA.** Linnæus. 1758.

694. White Wagtail.

Motacilla alba Linn. 1758.

One sent from the southern inspectorate of Greenland in 1849; another obtained by Dr. Walker at Godhavn in August, 1857. (*Arct. Man.*) Four individuals of this species were seen by Alexander Brown and James Lyell (of the Hudson Bay Company), August 29th, 1883, at Hunting bay, four miles south of Fort Chimo. These persons described the birds accurately and declared they were the two parents and two young of the year. (*Packard.*)

695. Swinhoe Wagtail.

Motacilla ocularis Swinh. 1860.

This bird is of doubtful occurrence in Alaska and is admitted on the capture of a single specimen in "Northwest America" by Capt. Kellett and Lieut. Wood; I obtained a fine male adult on June 23rd, 1881, in Plover bay, on the east coast of Siberia. (*Nelson.*) At Attu island, Alaska, I was looking out of my window on the morning of May 14th, 1881, watching the vessel which was to take me to Unalaska island enter the harbour; I saw a bird just beneath the window on the ground, not more than seven feet from my eyes, and which I believe to be this species. I failed, however, to procure it and hence there is an element of doubt in the identification. (*Turner.*) On the morning of August 28th the *Robert Kerr*, on which I was a passenger, was hindered from proceeding by a gale and low water on the bar, and was made fast to the bank at the Aphoon mouth of the Yukon. As I came on deck I saw half a dozen white wagtails fly about the vessel and settle in the grass close by. While I returnep

for my gun they left, but a thorough acquaintance with *Motacilla alba* in Egypt, where it is abundant during the winter, leaves me no doubt that these birds were wagtails. (*Bishop.*)

CCLXI. **BUDYTES** Cuvier. 1817.

696. Alaskan Yellow Wagtail.

Budytes flavus alascensis Ridgway. 1904.

The yellow wagtail of eastern Siberia extending across Behring sea into that portion of Alaska in the region of Behring strait, is one of the handsomest among its several related forms. The first specimens were obtained in the vicinity of St. Michael where it was found abundant during the summers of 1866 and 1867. In Alaska I found this bird along the coast as far south as the Yukon mouth, where it arrived May 28th, 1879, but was extremely rare. St. Michael, on Norton sound, appears to be the centre of its abundance on our coast, and thence north it becomes rarer until at Kotzebue sound it is, as at the Yukon mouth, very rare. (*Nelson.*) This bird arrives about June 12th and is very shy. Few females come with the earliest visitants, yet but few days elapse before mating begins. (*Turner.*) One adult male and two others were obtained July 11th, 1898, at Point Barrow, Alaska. (*Witmer Stone.*)

CCLXII. **ANTHUS** Bechstein. 1807.

697. American Pipit.

Anthus pensilvanicus (Lath.) Thienem. 1849.

The first specimens of this species were seen in Cumberland gulf, May 30th, 1879. In the autumn they leave for the south about the beginning of September. At Annanactook harbour, the nest was always placed deep in a rock crevice, so far in, in fact, that I could not secure any of the nests that I found. On the Greenland coast, especially in the vicinity of habitations, they build in a tussock much like a sparrow, but there the ravens are not so numerous or destructive to birds and eggs as in Cumberland sound. The species is generally distributed on both sides of Cumberland sound, and the west shore of Davis strait to lat. 68° N., at least, but nowhere very abundant. (*Kumlien.*) Supposed to breed in Greenland not further

south than lat. 67°, but unquestionably does so in the northern parts of the North American continent. (*Arct. Man.*) One of the most abundant birds in northeastern Labrador. Characteristic, with the horned lark, of the most barren and wind-swept hill-tops. Breeds very commonly. (*Bigelow.*) Abundant throughout Labrador. Nests and eggs were obtained at Fort Chimo where it breeds plentifully. (*Packard.*) Common in 1904 from Cape Henrietta Maria on James bay south to Missinabi in August; autumn migration. Common on the high rocky islands in James bay and on all the high barren hills between Richmond gulf and Ungava bay; June 18th, 1896, found a nest, with five eggs, beneath over-hanging rock, composed of dry grass. (*Spreadborough.*) Common along the shores of Hudson bay. (*A. P. Low.*) Two males were taken at Chateau bay, Labrador, July 14th, 1891. (*Norton.*) A common summer migrant in Newfoundland. (*Reeks.*) A common migrant in and around Halifax, N.S. (*Downs.*) Common migrant in Nova Scotia. (*H. F. Tufts.*) Seen in numbers on Sable island, N.S., September, 19th, 1902; one seen, May 12th, 1905; several seen September 26th, 1906, and about two dozen, September 15th, 1907. (*J. Boutelier.*) Occurs in spring and fall at Grand Manan, N.B. (*Chamberlain.*) A common spring and autumn resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) A common but transient visitant at Montreal. Observed both in spring and autumn. Flocks larger in the fall migrations. (*Wintle.*) Occasionally common around Quebec in spring and fall. Taken at Beauport. (*Dionne.*)

An abundant migrant at Ottawa. (*Ottawa Naturalist*, Vol. V.) I have seen a few of these birds in Leeds county, Ont., in the month of October. (*Rev. C. J. Young.*) Reported as common, in the autumn, at Beaumaris, by Mr. Taverner. Mr. Kay saw some at Port Sydney on August 15th, 1890. They occur regularly in Muskoka, and were common at Sand lake in October, 1900. (*J. H. Fleming.*) Usually quite abundant along the shores of Toronto bay in the fall, but passing through so quickly in the spring as to be often overlooked. Those I have seen in spring have been here during the first week in May. (*J. Hughes-Samuel.*) A passing migrant at Guelph, Ont. (*A. B. Klugh.*) Rather common, July 24th to 30th, 1901, on the rocky hills at Fort Churchill where a pair was taken. A large flock was seen on lower Hayes river as we were ascending it, August 29th. (*E. A. Preble.*)

Along the 49th parallel this species is a bird of passage, but the second season they were found in August about Chief mountain lake, and no doubt those observed were bred in immediate vicinity as at that time the full migration had not commenced. (*Coues.*) An abundant spring and fall migrant in Manitoba. (*E. T. Seton*; *Atkinson.*) A common spring and fall migrant at Aweme, Manitoba. (*Criddle.*) This bird was observed in small flocks on the plains of the Saskatchewan in the spring of 1827, feeding on the larvæ of small insects. (*Richardson.*) North to Fort Simpson on the Mackenzie river; not common. (*Ross.*) I have reason to believe that this bird is among those that resort to the Anderson to breed, but no nests were found. (*Macfarlane.*) First seen, July 24th, on north shore of Great Slave lake about W. long. 110°, probably nesting; thence northward to Clinton-Golden lake. Very abundant in migration at Fort Reliance in mid-September. (*E. T. Seton.*) A small stream of these birds kept passing Medicine Hat, Sask., from April 16th to May 3rd, 1894, when the last ones disappeared; found with their young more than half grown on Sheep mountain, close to Chief mountain, on the 49th parallel, at an altitude of 7,500 feet, July 30th, 1895; first saw a flock of about twenty at Edmonton, Alta., April 27th, 1897, they continued to be common to May 10th, when all disappeared; only one observed in the Athabaska pass on September 29th, 1898; common on the mountains above timber line south of Calgary in July and in the Crow Nest pass in August; frequent in spring at Banff, Rocky mountains, found on the mountains around Devil lake, in August, 1891; common after April 19th, 1890, on the flats by the Columbia river; later in the same year they were found on the mountains near the head of Bow river; they evidently breed on all the mountains above timber line; seen in large flocks at Trail near the 49th parallel, May 8th, 1902; seen in flocks at Penticton, B.C., April, 1903; found breeding on nearly all the mountains of the Coast and Gold ranges, B.C., near the 49th parallel, where there was grass, at an altitute of about 5,000 feet; very abundant on the shore of Sumas lake in the fall of 1901; first seen on Vancouver island on April 16th, 1893, they were common on ploughed fields by the 24th, last seen going north, May 7th; quite common at Clayoquot sound, Vancouver island, in September 1907. (*Spreadborough.*) A single specimen was heard singing on Avalanche Mt., Glacier, B.C. June 24, 1906. (*W. E. Saunders.*)

Found on the summit of Mount Finlayson near Victoria on May 17th, 1887, where they doubtless breed. (*Macoun.*)

Shot east of Coast range. (*Lord.*) Large flocks were found about the meadows of the coast district during the fall migration. (*Streator.*) East and west of Coast range, abundant; found throughout some winters on Vancouver island. (*Fannin.*) Common migrant through the Fraser valley at Chilliwack; breeds above the timber line on the Coast range. (*Brooks.*) Province of British Columbia at large; breeding sparsely on the plateaus and mesas of the interior up to 4,000 feet. (*Rhoads.*) Very common at Sumas lake, Lulu island and Matasqui prairie, B.C., in September, 1894. (*E. F. G. White.*) A bird thought to be this species was seen on a snow field in the mountains of Moresby island, Queen Charlotte islands, B.C., on June 23rd, 1900; comparatively few pipits were seen around Cook inlet, Alaska; one specimen was taken at Tyonek, September 18th. (*Osgood.*) This species arrives at Unalaska early in May and by the 19th had eggs on the hillsides. They seem to breed along the whole coast of northern Alaska and on many of the islands in Behring sea. (*Nelson.*) This species occurs throughout the territory of Alaska, including the Aleutian islands. It is found in the greatest abundance in the interior of the mainland, especially at Fort Yukon; it rarely visits St. Michael except in the fall. (*Turner.*) A pair seen on a grassy tide-flat beyond Indian river at Sitka, Alaska, on June 10th and the female secured; from the condition of the ovaries, I judged that it would have laid eggs within a week. (*Grinnell.*) During the autumn this bird was seen in all suitable localities (on the Kenai peninsula, Alaska) from timber line to an altitude of 4,000 feet. I did not observe it during the summer although I was in a good locality for it. (*Figgins*). Taken at Herendeen bay and Muller bay, Alaska in May and June, 1903, (*Anderson.*)

Breeding Notes.—I have sets taken by F. F. Payne at Cape Prince of Wales, Hudson strait, in June, 1888; also sets taken at Hamilton inlet, Labrador, June 30th, 1895, by Lambert Dicks, as well as sets taken at Nachvak, Labrador, June 15th, 1897; the Rev. I. O. Stringer found a nest and five eggs at Peel river, near the mouth of the Mackenzie river, June 25th, 1900, this was built of dried grass on the ground. (*W. Raine.*)

A male taken at Skagway, June 3rd, was probably a belated migrant; on the heights above Glacier, Osgood saw several, June 5th, and we found them common at Summit, June 11–13; a female taken, June 13th, was laying, and a fresh but empty nest I found the same day I attributed to this species, no other being near; the nest was loosely formed of fine dry grass in a hollow in the deep moss which covered the almost perpendicular side of a boulder lying on a hill high above Summit, only a small hole for entrance showing in the moss. We often saw the song-flight at Summit; launching himself with a sharp preliminary "chip" from one of the granite boulders that abound there, the male would rise rapidly to a height of a hundred feet or more, uttering a sweet, clear song; after poising high in air and repeating this song for several minutes the singer would slowly float toward earth and alight 100 yards from where he started, soon to repeat the same performance; we found a pair on the heights above Bennett, June 17th, and a few, possibly members of one family, at Circle, August 15–20. (*Bishop.*)

698. Meadow Pipit.

Anthus pratensis (Linn.) Bechst. 1807.

Received in Copenhagen by Dr. Paulsen from Greenland in 1845. (*Arct. Man.*)

699. Red-throated Pipit.

Anthus cervinus (Pall.) Keys & Blas. 1840.

A specimen of this bird was obtained in Greenland in 1845 and makes the second record. (*Turner.*) This species was accredited to the Aleutian islands in 1853; and Dall records a specimen which was obtained at St. Michael during the Russian telegraph expedition. (*Nelson.*)

700. Sprague Pipit.

Anthus spragueii (Aud.) Baird. 1864.

Found breeding in great numbers on the prairie near Turtle mountain and Mouse (Souris) river. (*Coues.*) A common summer resident on the elevated prairies in the south and west of Manitoba in 1882. In 1892 I failed to see or hear a single individual in the

country. They appear to have totally disappeared. This is unquestionably owing to the breaking up of the virgin prairie. (*E. T. Seton.*) A common summer resident at Aweme, Manitoba; arrives about April 23rd and leaves about the middle of September. (*Criddle.*) Heard numerous individuals singing in the east end of the Cypress hills and saw one the last week in June, 1894. Undoubtedly breeding at this time. (*Spreadborough.*) Numerous from Touchwood hills, Sask., west to Ribstone creek, Alta., in all the dry, treeless districts. (*Atkinson.*) Entirely overlooked in S. W. Saskatchewan in 1905, probably because we did not know where and how to look for it or realize the difficulty of seeing it or hearing it. It was really fairly common on the prairies in 1906, frequently heard and less frequently seen. (*A. C. Bent.*) Fairly common in northern Alberta where I listened with much pleasure to their interesting but rather monotonous song, delivered at so great an altitude that the bird was scarcely visible among the clouds. (*W. E. Saunders.*)

Breeding Notes.—I did not see the bird in the immediate vicinity of the Red river, and do not think I should have overlooked it had any individuals been breeding about Pembina, where I was every day in the field for more than a month collecting very assiduously. Passing the low range of the Pembina mountains, however, I at once entered the prairie region, where it was breeding in great numbers, in company with Baird's and the chestnut-collared buntings. The first one I shot, July 14th, was a bird of the year, already full grown and on wing, and as I found scarcely fledged young at least a month later I judge that, like the *Eremophila*, the bird raises two broods a year. Travelling westward to and beyond the second crossing of the Mouse river, no day passed that I did not see numbers of the birds; and at some of our camps, notably that at the first crossing of the Mouse river, they were so numerous that the air seemed full of them; young ones were caught by the hand in camp, and many might have been shot without stirring from my tent, as they hovered overhead on tremulous wings, uttering continuously their sharp querulous cry. They continued abundant through the greater part of September, in which month the renewal of the plumage is completed, and some still remained on the ground till October. Exactly when they migrate, however, and where they go to, or when they return, are equally unknown to me—not the least singular point in the bird's history is the success with

which it has eluded observation during the winter months. (*Coues.*) Breeds throughout southern Saskatchewan, but rarer in Manitoba. During my several expeditions to northwest Canada I have found over half a dozen nests of this bird. At Crescent lake, Sask., June 15th, 1902, I found a nest containing four eggs, built in the grass on the prairie. On May 25th, 1901, a set of five eggs was collected for me by Mr. Hugh Richarsdon in the Qu'Appelle valley, Saskatchewan, and he took another set of five eggs on May 28th at the same place, both nests were made of dried grass and built on the ground. I have another set of four eggs taken at Pasqua, southwestern Saskatchewan, May 26th, 1893. The eggs of this bird are very rare in collections. They are something like eggs of the prairie horned lark but are smaller. Some have a pale buff ground, others greyish-white ground, minutely speckled with buff and purplish grey. The eggs can easily be told from small prairie horned lark's eggs by the fine dark brown hair lines at the largest end of the eggs. I never saw these hair lines on eggs of the horned lark, although they are often found on eggs of the American pipit and European meadow pipit. This bird is called the Missouri skylark by the settlers as it has the same habit as the European skylark of soaring high up in the air until it becomes a mere speck in the sky and it never ceases singing from the time it begins to ascend until it reaches the earth again. It is a smaller bird than the European skylark and consequently its voice is not so powerful. I have often heard both species sing and must say Sprague's pipit is not in it with the European skylark, in spite of what has been said to the contrary by American ornithologists. (*W. Raine.*)

Family LI. **CINCLIDÆ.** Dippers.

CCLXIII. **CINCLUS** Borthansen. 1797.

701. **American Dipper.**

Cinclus mexicanus unicolor (Bonap.) Ridgway. 1904.

Observed one on Elbow river, southwest of Calgary, July 15th, 1897; common in Michell creek, west of Crow Nest pass, August 7th, 1897. (*Spreadborough.*) I met with this bird in numbers around Chief Mountain lake, but was too late for its eggs, as the young were already on the wing. (*Coues.*) A very common species in all the

mountain streams from Banff through the Rocky mountains to the Selkirks and Gold range. Its habit of living beside and behind waterfalls and small cascades adds a great deal of interest to a study of its habits; one nest found in the Kicking Horse valley was placed on a ledge behind a small waterfall and contained young birds on August 13th, 1885; at a distance it looked like a large mass of wet moss, but on examination it proved to be a nest shaped like an oven. (*Macoun.*) Very common in the rocky creeks west of the Columbia river on the 49th parallel in the summer of 1902; taken in Eagle river in the Gold range, B.C., on April 5th, 1890; common on the Elk river, B.C., May, 1904; one seen on Whipsaw creek and one on Skagit river, B.C., July 15th, 1905; one seen on a small stream at 5,000 feet altitude, July 25th, 1905; a few were seen in the little stream below Spence Bridge, B.C., in May, 1889, and a few at the head of the North arm of Burrard inlet, B.C., in April, 1889; quite common on the Chilliwack river and the streams flowing into it in the summer of 1901; one seen near Goldstream, Vancouver island, June 2nd, 1893; also saw one on Sooke river, on September 5th, where I heard it singing for the first time, I have heard it said they were good singers and so they are; their song resembles that of the cat-bird very much, in fact so much so that if I had not seen the bird sitting on a stone I should have put it down for that bird; they seem to do most of their singing in the fall and winter. (*Spreadborough.*) On July 16th, 1887, a nest of this species was found on the stringer of a bridge over a stream emptying into Cameron lake, at the base of Mount Arrowsmith, Vancouver island; it was built of moss and quite large, but very compact in the centre, but with the dome over it; owing to its position in a rapid torrent the eggs or young were not seen as we looked through a chink at the nest; as we camped at the bridge we had the bird under observation for two days. (*Macoun.*)

Three specimens of this bird were procured by Mr. Drummond near the sources of the Athabaska river, on the eastern declivity of the Rocky mountains, between latitude 54° and 56°. (*Richardson.*) The only specimen seen was shot at Ducks, B.C. (*Streator.*) To be found in nearly every mountain stream throughout British Columbia. (*Fannin.*) Very common along all the rivers in British Columbia. (*Lord.*) Resident at Chilliwack, but not common; common at Lake Okanagan, B.C., sings all winter; in the Cariboo district of British

Columbia it is found in the neighbourhood of running water all winter. (*Brooks.*) Associated in British Columbia with all dashing streams from the mountains to the sea. (*Rhoads.*) Common up Seymour creek, B.C. (*E. F. G. White.*) A dipper was seen and heard several times along a stream emptying into West arm of Cumshewa inlet, Queen Charlotte islands, 1899; several were seen in the mountains near Hope, Cook inlet, Alaska, and a specimen was taken there September 3rd, 1899. (*Osgood.*) Throughout Alaska, wherever clear, swift-running streams afford suitable locations, this bird is found. It winters in the neighbourhood of St. Michael, and specimens have been brought to me in midwinter when the temperature was at least 40° below zero. It seems to be very little affected by the extreme cold of our winters. (*Nelson.*) This species was obtained from several localities; it inhabits rocky creeks flowing from the mountains; it is not common but it is a permanent resident and breeds here. (*Turner.*) We collected a female and a set of four fresh eggs at the falls at Glacier above Skagway, Alaska, June 8th, 1898; a single ouzel seen further down the river, June 10th, was probably the mate of the one taken. Osgood also took one at Unalaska, October 5th. (*Bishop.*)

Breeding Note.—Breeds near Banff, Rocky mountains, making a large nest of moss with a side entrance, which it usually builds close to a cascade, either in a tree-root or on a ledge of rock. The nest is covered with moss and kept green by the falling spray from the mountain stream. (*W. Raine.*)

Family LII. **TROGLODYTIDÆ.** Wrens, Thrashers etc.

CCLXIV. **MIMUS** Boie. 1826.

703. Mocking Bird.

Mimus polyglottos polyglottos (Linn.) Bonap. 1838.

In McIlwraith's "Birds of Ontario," page 388, there is an interesting account of the nesting of this species in East Hamilton, Ont., in 1883. Mr. Eastwood observed the male early in the season, but the female kept so close that she was seen only once. It was hoped that this pair, or some of their family, would return the following spring to visit their old friends in Ontario, but if they did so they

have not been observed. In the "Birds of Western Ontario," mention is made of one specimen being taken by Mr. Sandys, at Chatham, Ont., in 1860, which is all we know of the mocking bird in western Ontario at present.

The following records of the occurrence of this bird in Canada are given by Dr. J. Dwight, Jr., in *The Auk*, Vol. XIII., p. 344: 1. One specimen seen but not captured at Strathroy, Ont., July 1st, 1880. 2. The Chatham record, as given by Mr. McIlwraith. 3. The Hamilton record, as given by the same. 4. A bird was wounded and caught alive at Truro, N.S., July 1st, 1889. It showed no signs of being an escaped cage bird. 5. This is a young bird taken in the fall of 1894 on Sable island, N.S. It must have reached there owing to a severe storm.

A young male in juvenile plumage was captured on Sable island, N.S., September 5th, 1902, hopping about a woodpile. (*J. Boutelier.*) A specimen was picked up on Haymarket square, St. John, N.B., by a seven year old boy, Ronald Singer, and through Mrs. M. V. Lawrence, brought to me. (*A. G. Leavitt.*) I took a male on May 20th, 1906, at Point Pelee, Essex county, Ontario. The bird was found near an old orchard on the west side about five miles from the end of the point. In both birds the sexual organs were well developed. Mr. B. H. Swales and Mr. P. A. Taverner were with me when both birds were shot. (*J. H. Fleming.*)

CCLXV. **GALEOSCOPTES.** Cabanis. 1850.

704. **Catbird.**

Galeoscoptes carolinensis (Linn.) Cab. 1850.

A rather common summer resident at Halifax, N.S. (*Downs.*) Common summer resident in Nova Scotia. (*H. F. Tufts.*) Several seen, May 16th, 1906, on Sable island, N.S., and one, September 15th, 1907. (*J. Boutelier.*) Apparently rare on Prince Edward island; a few specimens were seen in July, 1888, at Stewart's mill. (*Macoun.*) A rare and irregular summer resident at St. John, N.B. (*Chamberlain.*) Summer resident along St. John River, N.B., and tolerably common. (*W. H. Moore.*)

Common summer resident at Montreal. Breeds in the city and on Mount Royal park. Nests with eggs found from May 29th to

July 19th. (*Wintle.*) A common summer resident in eastern Quebec. Taken at St. Foy. (*Dionne.*) A common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) Very common everywhere in eastern Ontario; sometimes remaining until the end of September. (*Rev. C. J. Young.*) Regular summer resident at Toronto, Ont. An abundant summer resident in Parry Sound and Muskoka districts; breeding usually on the edge of the forest or in gardens of the settlers. (*J. H. Fleming.*) Very common summer resident at Guelph, Ont. Arrives about May 10th and leaves about September 25th. (*A. B. Klugh.*) A very common summer resident at Penetanguishene, Ont.; breeds very frequently in wild rose bushes in meadow-lands. (*A. F. Young.*)

The catbird was found to be one of the common birds of the Red River region, where it was breeding in June in situations similar to those it selects in the east. I traced it westward to Turtle mountain, on the 49th parallel, but did not find it in the Rocky mountains. (*Coues.*) An abundant summer resident of low thickets in Manitoba, especially to the north. (*E. T. Seton.*) Common summer resident at Aweme, Manitoba; arrives about May 17th and leaves about September 18th. (*Criddle.*) Breeding from Manitoba west to Edmonton, Alta. (*Atkinson.*) Fairly common in the timber and underbrush along creeks in southwestern Saskatchewan. (*A. C. Bent.*) This is a very common summer resident at Indian Head, Sask.; it was first seen June 2nd, 1892, and became common in a few days; breeds in great numbers; first seen at Medicine Hat, Sask., on May 17th, 1894; common by the 20th; abundant in all thickets at Medicine Hat, Crane lake, along Swift Current creek, and on the east end of the Cypress hills, in June, 1894; this bird was common wherever there was brush in Wood mountain and on Rocky creek to the Boundary; four nests were found on Frenchman river, two in willow thickets and two in wolf-willow (*Elæagnus argentea*); it was a common species in all the ravines in the Cypress hills and in Milk river valley, and wherever there was brush in southern Alberta; first seen at Edmonton, Alta., May 25th, 1897, heard a number of them singing next day; they soon became common and began to breed; common from Edmonton north to the McLeod river, in June, 1898; heard in the bushes at Deer Park, Columbia river, B.C., June 6th, 1890; later in the month they were found breeding in the valley of Pass creek, near Robson; quite common at Trail and Cascade, and in low bushes

along small streams near the 49th parallel in the summer of 1902; a common species at Kamloops and Spence Bridge, B.C., building in the thickets along the Thompson river, in June, 1889; only one individual seen at Chilliwack, B.C., in June, 1901, and one in the Chilliwack valley in 1906. (*Spreadborough.*) Uncommon at Prince Albert, Sask., several times heard in the thickets but only once seen. (*Coubeaux.*) This species was not observed further north than latitude 54°. It was abundant around Carlton, on the Saskatchewan, and bred in the willow thickets. (*Richardson.*) Very common summer resident of the interior of British Columbia, reaching the coast in reduced numbers. (*Streator.*) Common east and west of the Coast range; rare on Vancouver Island; summer resident. (*Fannin.*) Not abundant anywhere, but very local in its distribution in British Columbia. (*Rhoads.*) Tolerably common summer resident at Chilliwack, B.C.; and breeding as far north up the Fraser river as Soda creek, B.C. (*Brooks.*)

Breeding Notes.—Nests, in bushes, vines and trees of every kind; never high up; made of branches, dry leaves, bits of paper, bark and grasses; always lined with black rootlets. At Ottawa, the catbird begins to lay in the latter part of May. (*Garneau.*) Nest, built in a tree at Ottawa, from five to twenty feet from the ground; composed of twigs, leaves, bark, rootlets and bits of twine, lined with black rootlets. Eggs, four to five, dark bluish-green. (*G. R. White.*) Breeds in June, at Scotch Lake, N.B.; the nest is a roughly constructed affair of weed-stalks, grasses and other material, lined with rootlets and resembles a bunch of drift stuff lodged in a bush. The female keeps good watch over the nest and the male sings at some distance away to attract enemies to himself. (*W. H. Moore.*) This species builds its nest on the prairies in the densest thickets and is difficult to find; nests in willows and *Elæagnus argentea*. The base consists of leaves of thistles and *Artemisia*, then of bark of dead willow, lined on the inside with small black root fibres; three nests of the same character were taken on Frenchman river, Sask., June 22nd, 1895. (*Macoun.*)

CCLXVI. **TOXOSTOMA.** Wagler. 1831.

705. Brown Thrasher.

Toxostoma rufum (Linn.) Cab. 1847.

A common summer resident around Montreal; observed in the spring of the year, April 30th, and a nest found on the spur of Mount

Royal, containing three eggs, May 24th, 1890; not observed in the autumn, and think it must be an early migrant in the fall. (*Wintle.*) A moderately common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) Common in suitable places in eastern Ontario. A common breeding bird on Wolfe island, near Kingston, Ont. (*Rev. C. J. Young.*) Regular summer resident at Toronto, Ont. Mr. Kay records one from Port Sydney, Muskoka, taken on May 7th, 1890; I am sure it occurs at Emsdale, Parry Sound, but have not been able to take one. (*J. H. Fleming.*) An uncommon summer resident at Guelph, Ont. (*A. B. Klugh.*) A common summer resident in southwestern Ontario, but noted sparingly in the north; nests are usually made on the ground, often in a brush heap and sometimes in shrubs. Eggs, three or four; rarely five; two broods are often raised in a season near London, Ont. (*W. E. Saunders.*) A common summer resident at Penetanguishene, Ont.; have found their nests situated very near the ground in rose bushes. (*A. F. Young.*)

Observed at Pembina, which appears to be near the northern limit of the distribution of this species; a nest containing four eggs was found at Pembina late in June. (*Coues.*) A common summer resident of partly open country, more especially in the southern sections of Manitoba. (*E. T. Seton.*) A common summer resident at Aweme, Manitoba; arrives about May 10th and leaves about the middle of September. (*Criddle.*) A regularly breeding, but not common species in Manitoba and the west, being most abundant along the heavier wooded river courses; noted west to Touchwood hills, Sask., in 1906. (*Atkinson.*) Uncommon in the timber belts of southwestern Saskatchewan in 1906. (*A. C. Bent.*) First seen at Medicine Hat., Sask., May 12th, 1894; later they came in numbers and by May 22nd, were very common; in bushes in the creek and river valleys, May 30th; found a nest with four fresh eggs under a log in a heap of dry brush; nest composed of sticks, lined with dry grass; other nests were taken low down in the brush in close thickets; one pair was seen late in June in brush along Swift Current creek, in the east end of Cypress hills; observed in thickets at Old Wives creek, at Wood mountain and in the Milk river valley and on Milk river ridge, in southern Alberta, in 1895; observed one individual at Moose mountain, almost at timber line, about forty miles southwest of Calgary, July 1st, 1897; several seen further south on July 15th, near the source of Elbow river. (*Spreadborough.*) This species was

only seen at Carlton House, on the banks of the Saskatchewan, where it breeds. (*Richardson.*)

Breeding Notes.—A nest built in a small fir six feet from the ground and containing two young birds and three hatched eggs, discovered near Ottawa, on June 7th, 1903. It was a large nest of branches, ten inches in diameter, and lined with bark, grass and leaves. (*Garneau.*) A nest found near Beechwood cemetery, Ottawa, was built in a brier patch; the nest was a large bulky structure of twigs, weed-stalks, dead leaves, strips of bark and fibrous roots, lined with fine grass; it contained four greenish white eggs marked with reddish-brown dots. (*G. R. White.*)

CCLXVII. **SALPINCTES** Cabanis. 1847.

706. Rock Wren.

Salpinctes obsoletus obsoletus (Say) Cab. 1847.

One male of this species was seen in the east end of the Cypress hills, Sask., June 26th, 1894; it was also taken at Calgary, Alta., in August, 1885; a pair of these birds was noticed on June 14th, 1895, in the "bad lands," on Rocky creek, south of Wood mountain; the species was common along Milk river, and breeding in numbers at Castellated rocks, Alta., in July, 1895; saw one individual at Prairie creek, northwest of Edmonton, Alta., June 29th, 1898; rather common along the railway at Spence Bridge, B.C., in May, 1889; it was evidently breeding; common and breeding on rocky hillsides at Osoyoos lake, B.C., in June, 1905. (*Spreadborough.*) Migrant on Vancouver island and at Sumas. (*Lord.*) Rather common about Ashcroft; breeds. (*Streator.*) Common east of the Coast range; one specimen taken by me at Burrard inlet, in 1884. (*Fannin.*) Only once seen and shot, in November, 1889, at Chilliwack, BC. (*Brooks.*) Found about Ashcroft and northward to Câche creek, B.C.: also at Kamloops, where one was nesting in a "section" house, ten feet from the railroad tracks. (*Rhoads.*)

CCLXVIII. **THRYOTHORUS** Vieillot. 1816.

718. Carolina Wren.

Thryothorus ludovicianus ludovicianus (Lath.) Bonap. 1838.

One specimen of this species lived for a month or two in the winter of 1890-91 in the town of Forest, Ont., and was eventually shot in

February, 1891, by Mr. Montague Smith, of that place, and is now in the possession of Mr. S. H. Smith, of Strathroy, Ont. One specimen taken in a ravine near St. Thomas, Ont., by Mr. O. J. Stevenson, September, 1905, where it had lived for some time in the previous winter at least. I went to see this bird on April 25th, 1905. (*W. E. Saunders.*) Four specimens were taken on September 5th and 6th in a thicket on the east shore of Pelee point, Essex co., Ont., all young birds. The presence of these fledglings constitutes the first breeding record for Canada. (*N. B. Klugh*, in *The Auk*, Vol. XXIII, p. 105.)

CCLXIX. THRYOMANES Sclater. 1862.

719. Bewick Wren.

Thryomanes bewickii bewickii (Aud.) Ober. 1898.

Only one specimen recorded, taken by myself on December 13th, 1898, in a swampy area full of brush and fallen trees, with a few shrubs, near Appin, Ont. There was scarcely a foot of light snow on the ground, and the day was clear but not very cold. The bird was feeding and working along through upturned roots and piles of brush. (*W. E. Saunders.*)

719*e*. Seattle Wren.

Thryomanes bewickii calophonus Oberholser. 1898.

Rather rare at Agassiz, B.C., in May, 1889; seen at Chilliwack and Huntingdon, B.C., in the summer of 1901; a summer resident on Vancouver island; found breeding on April 22nd, 1893; I believe a few stay all winter, as I have observed them in midwinter near Victoria. (*Spreadborough.*) Migrant on Vancouver island and at Sumas. (*Lord.*) More common on the coast than in the interior. (*Streator.*) A summer resident, chiefly west of the Coast range; breeds in Beacon hill park, Victoria, Vancouver island. (*Fannin.*) Abundant resident at Chilliwack. (*Brooks.*) Abundant in southern British Columbia, west of the Coast range. (*Rhoads.*) Pacific slope, from Oregon north to southern Vancouver island, the valley of Fraser river and slightly further along the mainland coast. (*Oberholser.*)

CCLXX. **TROGLODYTES** Vieillot. 1807.

721. House Wren.

Troglodytes aëdon aëdon Ober. 1904.

One specimen taken on Sable island, N.S., May 4th, 1902; one seen May 24th, 1906, and another September 29th; one seen October 15th, 1907. (*J. Boutelier.*) A scarce summer resident around Montreal; seen feeding their young within the city in 1890 and 1891. (*Wintle.*) Rare in eastern Quebec. I captured a female of this species in Quebec city in the spring of 1880. (*Dionne.*) An abundant summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) Common in eastern Ontario. I have seen this bird frequently in Leeds county, but nowhere so common as in central and northern Frontenac; there it is quite numerous and sometimes makes its nest in a hole in a fence-rail. (*Rev. C. J. Young.*) Common migrant at Toronto, and fairly common summer resident. Common summer resident in Parry Sound and Muskoka districts; breeds in hollow fence-posts, stumps and under the roofs of houses. (*J. H. Fleming.*) Common along the Parry Sound railway in Algonquin park, Ont;. nesting in hollow stumps. (*Spreadborough.*) Common in town and country around London, Ont. Average date of arrival in twenty-two years, May 1st. Average date of departure in nine years, October 8th. Snakeskins are generally a feature in the lining of country nests. (*W. E. Saunders.*) Common summer resident at Guelph, Ont. (*A. B. Klugh.*) An abundant summer resident at Penetanguishene, Ont. (*A. F. Young.*)

Breeding Notes.—This bird nests in holes everywhere they exist. Nests have been found in fence-posts, trees, stumps and buildings. The entry is filled up with twigs and the nest made of bark, rootlets and grass, lined with feathers and hair. From four to seven eggs are in the set, which is laid in May, June or July, at Ottawa and at Lake Nominingue, 100 miles north of it. (*Garneau.*) Breeding commonly in the vicinity of Toronto. A pair have several times built their nest in a paint can that was hung up on a nail in a shed at Kew Beach, Toronto. (*W. Raine.*) Builds at Ottawa in trees, boxes or old hats nailed up on the side of a shed or barn. The nest is composed of twigs, leaves and hair, lined with feathers. Eggs, seven to eight; white, thickly spotted with reddish-brown. (*G. R. White.*) Occupied an old robin's nest at Kingfmere, Que., 1909. (*J. M. Macoun.*)

721*a*. Western House Wren.

Troglodytes aëdon Parkmanii (AUD.) A. O. U. LIST. 1886.

Observed as far west on the 49th parallel as the confines of the Missouri coteau. The westernmost specimens, as well as those from the immediate valley of the Red river appear to be typical *aëdon*. On the Red river, in June, the species was breeding very abundantly in the neighbourhood of the fort and town of Pembina. (*Coues.*) An abundant summer resident in partly wooded localities. Although this bird usually nests in a hollow stump, it is not averse to a different situation, provided only that it be a hole, and deep enough and narrow enough to exclude any but the owner. If the hole chance to be in the least a loose fit, his first care is to blockade the doorway with the largest twigs he can carry until he has reduced it to his own idea of snugness, and I learned to accept it as the infallible door-plate of a wren's homestead, when a bundle of twigs was seen projecting from a cranny in some decrepit looking stump, hollow rail or a knot-hole in an outhouse. (*E. T. Seton.*) A common summer resident at Aweme, Manitoba; arrives about September 20th. (*Criddle.*) Everywhere abundant in Manitoba and breeding as far west as Edmonton, Alta. (*Atkinson.*) Very abundant along the creeks in southwestern Saskatchewan. Nests in nearly every available hollow in box elders. (*A. C. Bent.*) One specimen of this wren was procured by Mr. Drummond at the foot of the Rocky mountains, but no others were seen by any of us to the eastward. (*Richardson.*) Frequently seen at Prince Albert, Sask., in summer. (*Coubeaux.*) First seen at Medicine Hat, Sask., May 15th, 1894; common by the 20th; abundant at Crane lake, Skull creek and east end of Cypress hills in June, breeding in holes in poplar trees and an occasional telegraph pole at Crane lake; this species was found breeding in holes in trees at Old Wives lakes, Sask., and at Wood mountain, in June, 1895; later, another nest was taken in a hole in a clay bank along Frenchman river, Sask.; not rare in the wooded ravines on the south side of the Cypress hills; a nest was taken built in a barn swallow's nest on Sucker creek, which is the source of Frenchman river; it was common on Spur creek, Milk river, Milk river ridge, St. Mary river and Lee creek, southern Alberta; common from the mouth of Lesser Slave river to Peace River Landing; breeding in holes in trees and in the sandstone cliffs and cut banks of Peace river,

latitude 56° 15′ in June, 1903; observed from Edmonton to Athabaska pass in June, 1898; first seen at Edmonton, Alta., May 6th, 1897; on June 8th, found a nest with seven eggs in a hole in a birch stub about six feet from the ground, nest built of sticks and lined with feathers; eggs quite fresh; on the 11th took another nest in a poplar stub about four feet from the ground; nest same as before; common south of Calgary in the foothills in June and July; rare at Banff, Rocky mountains, and breeding in holes in trees in June, 1891; shot at Revelstoke, B.C., May 3rd, 1890; a few pairs were breeding at Robson, B.C.; a nest was taken out of a hollow tree on Pass creek, 700 feet above the Columbia river, June 20th, 1890; observed a few at Trail, on the Columbia river, near the 49th parallel; breeding in holes in houses and trees in the summer of 1892; occasionally seen at Kamloops, B.C., in June, 1889; rather common at Heney, Hammond and Agassiz, along the Fraser river, B.C., in May, 1889; they were around the barns and houses like the house wren; common at Chilliwack, B.C., in the spring of 1901, and at Douglas, B.C., May 2nd, 1906; first seen on Vancouver island, April 27th, 1893; it is a tolerably common summer resident throughout the island, in May the woods everywhere were vocal with its song. (*Spreadborough.*) Rather common in British Columbia. (*Lord.*) Common summer resident everywhere; breeds. (*Streator.*) A summer resident east and west of the Coast range. (*Fannin.*) Common summer resident at Chilliwack. (*Brooks.*) I never found this wren above the 2,000 feet limit. It is not as abundant or evenly distributed in the interior as coast-wise. (*Rhoads.*)

Breeding Notes.—Quite common throughout the prairie region, breeding in holes in trees or in clay banks of rivers. At Walsh's ranch, Old Wives creek, Sask., they were nesting in holes in ash-leaved maple. At Wood Mountain post, Sask., nests were taken in clay banks; on June 21st, 1895, a nest was taken on Frenchman river, Sask., in a clay bank. On the outside it was built of willow twigs and roots and within lined with large feathers and hair. (*Macoun.*)

CCLXXI. **OLBIORCHILUS** Oberholser. 1902.

722. **Winter Wren.**

Olbiorchilus hiemalis hiemalis (Vieill.) Oberh. 1902.

Audubon, Vol. II., p. 129, found this species in southern Labrador, July 20th, 1833. (*Packard.*) A common and abundant resident

throughout the year in Newfoundland. (*Reeks.*) Not very common at Halifax; a few breed in Nova Scotia. (*Downs.*) Uncommon in Nova Scotia. (*H. F. Tufts.*) Hunter river, Prince Edward island, July 2nd, 1888. (*Macoun.*) Tolerably common in damp woods along brooks, or sometimes in more open localities in Prince Edward island. (*Dwight.*) A common summer resident at St. John, N.B. (*Chamberlain.*) Common summer resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Locally abundant in the Restigouche valley, N.B. (*Brittain & Cox.*) Tolerably common on the Magdalen islands. (*Bishop.*) Not rare at Lake Mistassini, northern Quebec. (*J. M. Macoun.*) A common but transient visitant around Montreal; observed in both spring and autumn. (*Wintle.*) Common in many parts of eastern Quebec. Taken at Charlesbourg. (*Dionne.*)

A moderately common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) Not uncommon in Leeds county, Ont. There is a large woodland tract south of Lansdowne, Ont., and not far from the St. Lawrence, where they are quite common and breed; I found a nest in 1883, early in May, and have heard several singing there together in April; I noticed one specimen on the Magdalen islands. (*Rev. C. J. Young.*) Common migrant at Toronto, Ont.; rare winter resident; very rare summer resident; breeds. A common species and breeds in Parry Sound and Muskoka districts, Ont. (*J. H. Fleming.*) Common from Missinabi, Ont., to Moose Factory; none seen further north; common everywhere in thick dark woods in Algonquin park, Ont. (*Spreadborough.*) On March 17th, 1894, a male of this species was taken at Toronto, and I have every reason to think that he had wintered there. (*J. Hughes-Samuel.*) An uncommon summer resident in the deep cedar swamps around London, Ont. Much less numerous than formerly. (*W. E. Saunders.*) Common summer resident at Guelph, Ont.; arrives about April 4th and leaves about October 6th. (*A. B. Klugh.*)

Summer resident in the thick woods in eastern Manitoba; has been seen as far west as Portage la Prairie. (*E. T. Seton.*) A rare summer visitor at Aweme, Manitoba. (*Criddle.*) A regular but not common migrant about Portage la Prairie, Man., but not noticed elsewhere. (*Atkinson.*)

Breeding Notes.—This species breeds in June at Scotch Lake, N.B. The nest is well hidden in upturned roots of overturned trees.

Eight eggs are generally laid. (*W. H. Moore.*) In the woods near Lake Nomininge, about 100 miles north of Ottawa, two nests were found imbedded in green moss on the ground, and another on the side of a fallen tree. The entrances were about an inch in diameter and the interiors were empty spheres lined with a few grasses. (*Garneau.*) I have found this species breeding at Long Branch, west of Toronto, at Rice lake and near Port Hope and at Waterloo, Ont.; a favorite nesting place is in the root of some fallen tree; it lays six to seven eggs, finely spotted at the largest end with dark brown. (*W. Raine.*) There were a few years ago some large woods in the front of the township of Lansdowne, Ont.; a creek ran through them, and here the winter wren was quite common and bred; I once found its nest, which was built in a cavity of a stump, about a foot from the ground; it was early in May before the bird laid her eggs, but at that time the nest was really completed, being a large globular ball of moss with a small hole near the top. (*Rev. C. J. Young.*)

This season, I saw one on January 23rd (1894) in a woodland dell, which it frequents during the summer, and near where I had found two nests. On March 30th, I again heard it in the same place, and from that date they became more common. Toward the centre of our sugar bush, and not far from the "camp fire," the ground is rather low, and here most of the larger timber was uprooted by that terrible windstorm of April 20th, 1893; having noticed the winter wrens frequently during April, in this bush, I expected that they were going to nest here again, and a search on May 2nd, was rewarded with the discovery of a nearly completed nest in one of the highest roots. I think it was four days later that I again visited it, when it contained four eggs; on the 9th, I flushed the bird from her nest, which I carefully removed from its place in the soil and fine roots, and found the number of eggs to be six, which were apparently pure white, but if held up to a strong light, after being blown, the minute markings, with which the larger part of the surface is dotted, became visible; the site of the nest was about six feet above the ground, or rather water, which filled the space out of which the root had been torn; the nest resembled a round ball of moss with an entrance hole on the outer side; it measured over twelve inches in circumference; the exterior was almost wholly composed of a species of moss, common on the lower parts of trees and logs in low grounds; around the entrance are a number of the stalks of hemlock leaves, while the inside is nearly lined with fine vegetable

matter, hair and feathers. This set was completed on the 8th of May and is the earliest date I have ever taken their eggs. Of the seven nests collected in this vicinity four contained six eggs each, and three five; all of these were built in the upturned roots of fallen trees, which is evidently their favourite nesting place, though it certainly builds in other situations. (*Wm. L. Kells.*)

722*a*. Western Winter Wren.

Olbiorchilus hiemalis pacificus (BAIRD) OBERH. 1902.

Common in thick spruce woods from Lesser Slave lake to Peace River Landing, latitude 56° 15′, in June, 1903; observed one on Moose mountain, southwest of Calgary, June 30th, 1897, another observed in Crow Nest pass, July 28th, 1897; first seen at Revelstoke, on the Columbia, April 10th, 1890, later they became more common and nested in the thick woods; quite common in thick woods at Trail on the 49th parallel in the summer of 1902; three specimens seen at Penticton, B.C., in April, 1903; common in the woods around Burrard inlet and Agassiz, on the Fraser river, B.C., April, 1889; common at Fernie, B.C., in 1904; seen near Midway, B.C., April, 1905, and common between the Skagit river and Chilliwack lake and along the Hope trail in July of the same year; common at Douglas, B.C., where I found a nest in the roots of an upturned tree; abundant along the Chilliwack river, in the mountains near the 49th parallel; also observed a few at Huntingdon, B.C., nearer the coast in 1901; a common resident throughout Vancouver island, preferring thick woods. (*Spreadborough.*) Rather common, British Columbia. (*Lord.*) Confined principally to the coast region; breeds. (*Streator.*) A resident chiefly of the coast; abundant. (*Fannin.*) Common resident at Chilliwack. Tolerably common throughout the winter at Lake Okanagan, B.C. (*Brooks.*) Abundant on the coast of British Columbia. Two moulting birds from Selkirk mountains near Nelson, B.C., are even darker than skins from Puget sound. (*Rhoads.*) From Sitka, Bischoff sent four specimens during his collecting there, and others have been collected at Kadiak. (*Nelson.*) Tolerably common in the more open forests at Sitka, Alaska, where there is much recently fallen timber. Especially numerous on St. Lazaria island where their clear sprightly songs constantly uttered, seemed scarcely in accord with the harsh cries of the thousands of sea-fowl. (*Grinnell.*) We noticed a few at Glacier above Skagway, Alaska,

June 4th to 10th, and I took a male there, June 6th. (*Bishop*). Very common on all the Queen Charlotte islands, it is practically the only bird to be found in the deep forest away from the sea-shore. On the occasions when we attempted to penetrate the labyrinth of undergrowth towards the interior of the islands, we were always greeted, even in the darkest places, by the tiny wren's bright bubbling song or scolding chatter. It is always in motion and utterly regardless of the weather. During continuous rains while we were camped at the head of Cumshewa inlet, a wren would appear every few hours near the front of the tent and, after scolding us for a while, move on through the wet brush cheerfully and oblivious of the descending rain. I flushed a bird from an empty nest in the upturned roots of a large fallen cedar, June 15th. I visited this nest frequetly and flushed the bird from it each time, but up to June 28th it still contained no eggs. Four specimens only were collected, two adults and one young from Cumshewa inlet and one young from Skidegate. These do not differ from specimens from the adjacent mainland of British Columbia and from Puget sound near the type locality of *Anorthura h. pacificus*. (*Osgood.*) Common at Stanley park, Seymour creek, Mission City and Chilliwack, B.C., in 1894. (*E. F. G. White.*)

722*b*. **Kadiak Wren.**

Olbiorchilus hiemalis helleri (Osgood) Oberh. 1902.

Kadiak island, Alaska, resident. (*Ridgway.*)

723. **Alaskan Wren.**

Olbiorchilus alascensis (Baird) Oberh. 1902.

The type of this wren was obtained by Mr. Dall at St. George island, Alaska, and is a young bird. It is an abundant resident on the Near islands; it is found throughout the Aleutian islands and is a resident wherever found. (*Nelson.*) This pleasing little bird is found in abundance on all the Aleutian chain proper; it was also observed at Kadiak island, Unga island, and on the mainland at Belkoosky; it never goes to the interior of even a small sized island, but remains strictly among the cliffs, bluffs, and other high places forming the seasides of the islands. (*Turner.*) Not uncommon on St. George island in Behring sea, Alaska; a number of specimens were taken in June, 1897. (*J. M. Macoun.*)

723. 1. **Attu Wren.**

Olbiorchilus meligerus OBERHOLSER. 1902.

Attu island, Aleutian islands, Alaska, June 4th, 1894. Range, the westernmost islands of the American group. (*Oberholser* in *The Auk*, Vol. XVII., 1900.)

CCLXXII. CISTOTHORUS CABANIS. 1850.

724. **Short-billed Marsh Wren.**

Cistothorus stellaris (LICHT.) CAB. 1850.

A male of this species was seen at London, Ont., in 1898, and several old nests were found but no females were seen. A colony was discovered and a specimen taken near the base of Point Pelee, May 14th, 1905. It was inhabiting a long-grass marsh. (*W. E. Saunders.*) I have two specimens of this bird taken by Mr. C. W. Nash at Toronto. (*J. H. Fleming.*) On August 29th, 1891, I found and secured an adult female of this species in an old field north of Toronto, the bird was a long distance from any marsh or water; on June 7th, 1895, I captured an adult male in a wet meadow east of Toronto; there were no rushes near this place, but the grass was very rank. (*C. W. Nash* in *The Auk*, Vol. XIII., p. 347.) A male was taken in a wet meadow at Norway House, June 20th; from its actions it probably had a nest in the vicinity, but despite a careful search none was found. (*E. A. Preble.*)

I found the birds to be rather plentiful along the Red river, in low oozy ground, overgrown with scrub willows, and also in the reedy sloughs of the prairie. They were undoubtedly breeding here, though no nests were secured. My specimens were secured at Pembina in June. (*Coues.*) A summer resident of erratic distribution in Manitoba; soon after the 1st of May, every little sedgy pool and slough in the Assiniboine valley, from Carberry to Pelly, is vocal with the merry chatter of this bird. The nest is a globular structure, and judging by the one or two cases I have observed is generally placed in a grass tuft; if there is any difference I think the short-billed selects a drier situation for his home than the long-billed marsh wren. (*E. T. Seton.*) A tolerably common summer resident at Aweme, Manitoba. Arrives about the last of April. (*Criddle.*) A few specimens seen at lakes ten miles south of Indian Head, Sask., in May, 1892. (*Spreadborough.*)

CCLXXIII. **TELMATODYTES** Cabanis. 1850.

725. Long-billed Marsh Wren.

Telmatodytes palustris palustris (Wilson) Coues. 1868.

One procured at Godthaab, Greenland, in May, 1823. (*Arct. Man.*) The first specimen taken in the province of New Brunswick was near St. John, October 3rd, 1895. Nothing more was noted of this species until September 23rd, 1900, when two were heard at Mud lake, 15 miles east of Scotch Lake. (*W. H. Moore.*) A scarce summer resident at Montreal. The late Mr. Caulfield observed this species, May 24th, in some reeds around a pond at Côte St. Paul, and Mr. W. W. Dunlop has seen them on Nun island, above the Victoria bridge. I found a pair nesting in the bullrushes and rank herbage at the mouth of Laprairie. (*Wintle.*)

A common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) One of the commonest birds in eastern Ontario about the St. Lawrence below Kingston. Sometimes remaining until the middle of September. (*Rev. C. J. Young.*) Common summer resident at Toronto, Ont. (*J. H. Fleming.*)

Breeding Notes.—Builds a large bulky nest in reeds in marshes around Ottawa. The nest is made of tops of grasses and reeds worked into a ball with a hole in one side, lined with fine grass. Eggs, 6 to 8, of a rich dark chocolate or so spotted with chocolate as to make the ground colour appear to be chocolate. (*G. R. White.*) Breeds abundantly in the marsh behind my house at Kew Beach, Toronto. (*W. Raine.*) On June 6th, 1903, I visited the Lake Francis marshes near Summertown, Ont., where I found many nests of the long-billed marsh wren. The globular nests were everywhere, and resembled those of the field mouse but were very strongly woven with rushes with a lining of feathery down from the bullrushes. The entrance was a small round hole in the side, which, in the first nest, I did not really find, but later I observed that it invariably opened out between the rushes to which the nest was fastened. The nesting sites were chiefly in clumps of last year's rushes, when they were composed of dead material. Many birds, however, fastened their nests to the long rank grasses which covered the marshes where the water was only a few inches deep. In the latter choice, green grasses were used in building, the wrens thus blending the colour of their

homes with that of the immediate surroundings. Often three or more nests appeared to be the property of one pair of birds, those occupied being several yards apart. The surplus nests are probably built with the purpose of discouraging enemies, or possibly having cause to fear rising of water, the birds are not satisfied with their first attempts.

One nest that I found contained four eggs of a pure glossy white without a sign of coloration. They were slightly malformed and almost globular in shape, measuring: .58 x .53; .58 x .52; .59 x .54; .57 x .53, averaging .58 x .53, whilst an average specimen of the normal egg measures .66 x .49. (*L. M. Terrill.*) In the *Ottawa Naturalist*, Vol. XVIII., p. 120, the Rev. G. Eifrig describes the nests found by him at Lake Doré, Renfrew county, Ont.

725*a*. California Wren.

Telmadotytes palustris paludicola (BAIRD) RIDGW. 1877.

Rather common in Burnaby lake about three miles from New Westminster, B.C., in April, 1889. There were many nests, both old and new, built securely to bullrushes (*Scirpus lacustris*) standing in the water. All the nests were oven-shaped and evidently the lake was the home of a large colony; in the summer of 1901 two individuals were seen in a peat bog at Huntingdon, B.C., on the 49th parallel. (*Spreadborough.*) Recorded from Chilliwack by Ridgway.

725*c*. Western Marsh Wren.

Telmatodytes palustris plesius (OBERHOLSER). 1903.

First seen at Penticton, Lake Okanagan, B.C., April 23rd, 1903, breeding in the district but not common; common in the marshes near Midway, B.C., May 1st, 1905, building nests at that date. (*Spreadborough.*) Found in the interior of British Columbia, only breeding about the muddy margins of mountain lakes. (*Streator.*) I have found this bird only east of the Coast range where it was very abundant around the lakes along the Cariboo road. (*Fannin.*) A few stay all winter at Lake Okanagan, B.C. (*Brooks.*) Breeding over the lake country east of the Coast range; I found it abundant at Lac la Hâche, B.C.; it must range much farther north than this, probably to Stewart lake, lat. 54°. (*Rhoads.*)

725*d*. Prairie Marsh Wren.

Telmatodytes palustris iliacus RIDGWAY. 1903.

Great Plains and prairie districts north to South Edmonton, Alta., and probably east to Manitoba. (*Ridgway.*) A common resident of marshes in eastern Manitoba. Mr. Hunter has noticed it from Selkirk to Souris, particularly at Shoal lake, north of Winnipeg, where they appear to be very common. I have never seen it at Carberry nor on the upper Assiniboine. (*E. T. Seton.*) A tolerably common summer resident at Aweme, Manitoba. (*Criddle.*) Abundant and breeding in all marshes of any size in Manitoba and west to Little Manitou lake in 1906. (*Atkinson.*) Three specimens of this species were secured at Chemawawin near the Grand Forks of the Saskatchewan. (*Nutting.*) Apparently a rare spring migrant at Indian Head, Sask. Only one individual seen June 5th, 1892. Observed a number of individuals in a reedy pond at Edmonton, Alta., May 10th, 1897, I think that they arrived much earlier; common in tall rushes around all the ponds and lakes, May 13th, on May 27th examined about 30 nests and obtained only one egg, on June 10th found three nests, one with young and two with eggs nearly fresh, nests fastened to the rushes (*Scirpus lacustris*), out in the water and made of grass; found a pair breeding at Peace River Landing, lat. 56° 15′, July 1st, 1903. (*Spreadborough.*)

Mr. Drummond killed specimens of this wren on the eastern declivity of the Rocky mountains on the 55th parallel. (*Richardson.*) This species was not observed till we reached the Rocky mountains when a few were seen on marshy ground near Chief Mountain (Waterton) lake. (*Coues.*) I place this record here where it evidently belongs.

The specimens, of this variety in our museum are from Edmonton and Peace River Landing. There may be some doubt about the Manitoba and Rocky mountain references above but without seeing the specimens this seems to be the proper place to put them.

FAMILY LIII. CERTHIIDÆ. CREEPERS.

CCLXXIV. CERTHIA LINNÆUS. 1758.

726. Brown Creeper.

Certhia familiaris americana (BONAP.) RIDGW. 1874.

Apparently a summer migrant in Newfoundland; but may not migrate. (*Reeks.*) A rather common resident at Halifax, N.S.

(*Downs.*) Uncommon resident in Kings county, N.S., though chiefly in summer. (*H. F. Tufts.*) Saw one, October 25th, 1905, on Sable island, N.S. (*J. Boutelier.*) A rather rare summer resident at St. John, N.B. (*Chamberlain.*) A scarce permanent resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) A common transient visitant around Montreal; observed nearly all the year; a few possibly breed and winter there. (*Wintle.*) This bird is frequently met with in eastern Quebec; taken at Beauport. (*Dionne.*)

A common winter migrant around Ottawa. (*Ottawa Naturalist*, Vol. V.) I have frequently noticed this bird in the fall and early spring, though but seldom in the summer; neither have I observed it breeding in eastern Ontario, though it probably does. (*Rev. C. J. Young.*) A very common resident in Parry Sound and Muskoka districts. Common migrant at Toronto, possibly a rare summer resident. (*J. H. Fleming.*) Not very common in Algonquin park, Ont.; have not seen its nest. (*Spreadborough.*) A common migrant, but a rare summer resident around London, Ont. (*W. E. Saunders.*) Common resident at Guelph, Ont.; more abundant in autumn, winter and spring than in summer. (*A. B. Klugh.*) A common resident at Penetanguishene, Ont. (*A. F. Young.*) A very rare summer resident of woodlands in eastern Manitoba. (*E. T. Seton.*) Common in Manitoba as a migrant but not noted breeding. (*Atkinson.*)

Breeding Notes.—Have taken several nests at Ottawa, always in deserted woodpecker's holes. The nests are made of grasses and lichens, lined with hair and feathers; eggs 6, white with sparingly distributed reddish brown dots. (*G. R. White.*) Breeds in Welland county, Ont., where Mr. Reinecke has taken its nest and eggs; it is more plentiful in Muskoka and in northern Ontario, where it makes its nest of twigs in a decayed tree-stub under the loose bark and lays 5 to 6 white eggs, heavily spotted with reddish brown, chiefly at the largest end. (*W. Raine.*) On July 14th, 1903, I saw many brown creepers in a swamp and going to a likely looking balsam stub and striking it, there was a great commotion at its base and several young creepers fluttered away in different directions. I found that I had broken off a large piece of bark about two feet from the base of the stub, thus disclosing the nest, which was fastened to the loose bark with threads of spider's silk. It was a very deep structure though necessarily much flattened (as the bark was only about three inches

from the trunk at its widest) in the shape of an elongated one-sided wedge. It was composed of dead lichen-covered twigs of spruce, balsam and tamarac, thrown together in a very loose mass with a lining of shreds of the inner bark of balsam. Its outside depth measured eight inches, the diameter parallel with the trunk five, and the other diameter two and one-half. The bark and trunk formed the boundaries of the nest cavity, which was perfectly flat. (*L. M. Terrill.*)

726*b*. Rocky Mountain Creeper.

Certhia familiaris montana RIDGW. 1882.

Quite rare at Revelstoke, B.C., only two seen up to May 4th, 1890; occasionally heard in the thick woods during May; saw one near Midway, B.C., April 22nd, 1905, and one at Meyers creek, a little further west, a few days later. (*Spreadborough.*) Rare in British Columbia. A male creeper from Nelson, B.C., appears to be *montana*. (*Rhoads.*) Rather common in winter at Lake Okanagan, associating with chickadees. Tolerably common in winter in the Cariboo district of British Columbia. (*Brooks.*) One female taken at Seldovia, Alaska. (*Anderson.*) One adult female taken at Hope, Alaska, August 31st, 1900; a few individuals were seen at Tyonek inlet, Alaska. (*Osgood.*)

726*c*. California Creeper.

Certhia familiaris zelotes OSGOOD. 1901.

Saw three individuals on October 25th, 1901, at Chilliwack, B.C., in company with a number of Canada nuthatches; one individual seen at Agassiz, B.C., on May 16th, 1889; one shot at Comox, Vancouver island, May 2nd, 1887, and a few seen at Victoria later in the month. (*Spreadborough.*) Not uncommon on the coast; only one seen in the interior. The single specimen taken at Ducks, a bird of the year, is perhaps referable to *montana*. (*Streator.*) East and west of Coast range; common on Vancouver island. (*Fannin.*) Tolerably common resident at Chilliwack. (*Brooks.*) Neither rare nor common on the coast of British Columbia. (*Rhoads.*)

729*d*. Tawny Creeper.

Certhia familiaris occidentalis RIDGWAY. 1882.

Seen only in the tall timber along Indian river, Sitka, Alaska, where I secured six specimens and saw several others. (*Grinnell.*)

One specimen was taken and several others were seen in Cumshewa inlet, Queen Charlotte islands, B.C., June 20th, 1900. (*Osgood.*) Common on Vancouver island. (*Fannin.*)

Family LIV. **PARIDÆ**. Nuthatches and Tits.

CCLXXV. **SITTA** Linnæus. 1758.

727. White-breasted Nuthatch.

Sitta carolinensis carolinensis Lath. 1790.

Common on Anticosti; Audubon saw one in Labrador. (*Packard.*) Common along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*) Rather common summer resident at Halifax, N.S. (*Downs.*) Uncommon summer resident in Kings county, N.S., sometimes seen in winter. (*H. F. Tufts.*) One individual taken on Sable island, N.S., September 29th, 1902; a few specimens seen, August 4th, 1907. (*J. Boutelier.*) Cove Head, Prince Edward island, July 4th, 1888. (*Macoun.*) Common in spring and summer but not seen in winter at St. John, N.B. (*Chamberlain.*) A tolerably permanent resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) It is seen in the woods of eastern Quebec, but near the city I have never seen a single individual. Taken at St. Vallier, Bellechasse county, Que. (*Dionne.*) A permanent resident at Montreal. Common spring and fall migrant, but a scarce summer and winter resident. (*Wintle.*)

A common resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) A common bird in eastern Ontario. Have observed it all through the winter as well as in summer at Lansdowne. It breeds commonly in Leeds county, though as the nest is usually made in a hole of a tree, often a maple, high up, it is not often discovered. (*Rev. C. J. Young.*) Winter and fall resident at Toronto, Ont.; no summer records except from July 10th to 21st, 1892. A common resident in Parry Sound and Muskoka districts; I found a nest on 24th May, 1893, at Emsdale; it was in a natural hollow in a large maple, and about 30 feet from the ground; the six eggs were laid on the rotten wood and surrounded by a few of the bird's feathers. (*J. H. Fleming.*) Common resident at Guelph, Ont. (*A. B. Klugh.*) Nests have been taken at Sherkston, Welland county, by Mr. Edward Reinecke. Here it lays from seven to eight eggs in a hole in a decayed tree-stub. One nest was in an ash tree fifty feet from the

ground. (*W. Raine.*) A common resident at Penetanguishene, Ont. (*A. F. Young.*) An adult female taken at Fort Churchill many years ago is recorded by Clarke. (*E. A. Preble.*)

727*a*. Slender-billed Nuthatch.

Sitta carolinensis aculeata (Cass). Ridgway. 1874.

One specimen taken on Sumas prairie, B.C., October 10th, 1894. (*E. F. G. White.*) We have not seen Mr. White's specimens but they are probably this variety. Ridgway cites a Vancouver island station.

727*c*. Rocky Mountain Nuthatch.

Sitta carolinensis Nelsoni Mearns. 1902.

Somewhat rare; summer resident of woodlands; its distribution seems to be much the same as that of the oak (Q. *macrocarpa.*) (*E. T. Seton.*) One observed in the Crow Nest pass, Rocky mountains, July 29th, 1897; not common at Revelstoke, B.C.; a few were seen in a piece of green timber near the railway station on May 12th, 1890; rather common at Deer park and Robson on the Columbia river; breeding in both localities; four seen at Cascade, B.C., June, 1902; not uncommon in mountain woods at Spence Bridge, B.C., May, 1889; only observed two specimens at Penticton, B.C., April, 1903; common at Elko, B.C. in coniferous woods, May 20th, 1904; observed a few near Midway, B.C., and a few breeding at Sidley in April, 1905. (*Spreadborough.*) Rather common at Lake Okanagan, B. C., in winter, associating with chickadees; in summer confined to the region of *Pinus ponderosa* in B.C. (*Brooks.*) British Columbia. (*Lord.*) Very common in the interior; breeds. (*Streator.*) Common east of coast range; I found them very abundant on the wooded hills above Cornwallis. (*Fannin.*) Abounds in the wooded hills of the interior of British Columbia. (*Rhoads.*) An abundant resident in Manitoba, and observed in 1906 along the G. T. P. railway west to Edmonton, Alta. (*Atkinson.*) Fairly common in late autumn at Aweme, Man. (*Criddle.*)

728. Red-breasted Nuthatch.

Sitta canadensis Linn. 1766.

Audubon, Vol. IV., p. 179, states that he saw one in Labrador, which had probably been driven there by a storm. (*Packard.*)

Common on Moose river from Missinabi, Ont., to Moose Factory, James bay. (*Spreadborough.*) Perhaps a permanent resident in Newfoundland. (*Reeks.*) One seen on the Humber river, Newfoundland, August 18th, 1899. (*Louis H. Porter.*)

A fairly common resident at Halifax, N.S.; associated with the chickadees. (*Downs.*) Five single specimens were seen on Sable island in July and August, 1899. There were no signs of nesting and in no case were two seen together on any part of the island. The one located at the main station entered the houses and caught flies in the windows and twice it perched on the writer's head and sprung at the flies in the window from that perch; besides catching flies it would hunt up and down the telephone poles and on the fence posts and boards for other food; not uncommon at Baddeck and Margaree, Cape Breton island, July, 1898; a few were noticed in spruce trees at Brackley point, Prince Edward island, 26th June, 1888. (*Macoun.*) One seen on July 14th and another September 8th, 1902, on Sable island, N.S.; one seen May 16th, 1904; numbers seen after a gale, November 5th, 1906; seen January 20th, 1907, and all through the following autumn. (*J. Boutelier.*) I had about given up seeing this species at all when I came upon several at Souris, Prince Edward island, probably a family. (*Dwight.*) Usually an uncommon resident at St. John, N.B. (*Chamberlain.*) A common permanent resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Quite common in the Restigouche valley, N.B.; young just beginning to fly in July. (*Brittain & Cox.*) A tolerably common summer resident on the Magdalen islands. (*Bishop.*) A permanent and common resident in eastern Quebec. Taken at Beauport. (*Dionne.*) A common transient visitant at Montreal; probably a few breed and winter there. (*Wintle.*)

A common resident at Ottawa. (*Ottawa Naturalist*, Vol. V.) In the years 1887 and 1888 this bird appeared to be unusually common in Renfrew county, Ont. In the former year I met with four nests. Two of these were in partly decayed poplar trees; one about 10 feet and the other about 30 feet from the ground. The eggs are laid the second week in May at latest, as on 21st of that month I found the young just hatched. A peculiarity of the nest hole is that the orifice is smeared with rosin from the neighbouring spruce or pine trees, carried by the bird. I did not notice any nests in the pine or spruce themselves. About Lansdowne, Leeds co., the bird is

uncommon even in late spring. (*Rev. J. C. Yeung,*) Resident at Toronto, Ont., between Sept. 2 and May 13. A common breeding resident in Parry Sound and Muskoka districts. (*J. H. Fleming.*) Abundant everywhere in Algonquin park, Ont., in summer. (*Spreadborough.*) A common migrant in southern Ontario. Two specimens were noted near Wiarton in North Bruce, Ont., on June 19th, 1889, which were probably breeding. (*W. E. Saunders.*) A passing migrant at Guelph, Ont. (*A. B. Klugh.*) A common resident at Penetanguishene, Ont., throughout the year. (*A. F. Young.*) Heard at Echimamish and a few seen on an island in Knee lake, Keewatin, July 5, 1901. (*E. A. Preble.*)

A very rare summer resident in Manitoba especially in the Red river valley. (*E. T. Seton.*) Very abundant in the fall migration at Aweme, Manitoba. (*Criddle.*) A common migrant in Manitoba, nesting in some localities. Noted breeding in 1906 at Hamiota, Birtle and Fort Ellice, Man., and at Saskatoon, Sask. (*Atkinson.*) Heard twice in a tangled thicket at the summit of the Cypress hills, July 26, by Bishop. (*A. C. Bent.*) One shot at Medicine Hat, Sask., in May, 1904; a few seen on Lee creek, near Cardston, Alta., in July, 1895; not common in the Peace river country, very few seen during the season of 1903; tolerably common in the spruce woods at Edmonton, Alta., June 12th, 1897, found a nest in a hole in a live poplar about 16 feet from the ground, the young were in the nest; common from Edmonton to Athabaska pass in June, 1898; not uncommon in the foothills south to Crow Nest pass; common and breeding in the woods at Banff, Rocky mountains, in the summer of 1891; a common summer resident at Revelstoke, B.C.; and at Deer Park, and Robson, on the Columbia river, where they were breeding in the thick woods; summer resident near the International Boundary between Trail and Cascade, B.C., in 1902; common both in the valley and on the hills at Penticton, south of Lake Okanagan, B.C., in April, 1903, nesting quite early in April; common at Elko, B.C.; common at Midway, B.C., and on the mountains between the Skagit river and Chilliwack lake; observed at Douglas, B.C., in April, 1906; common in the coniferous woods at Kamloops, Spence Bridge, Agassiz and Hastings, B.C., in 1889; observed a few all summer in the woods all along the Chilliwack river and lake, in the Fraser valley in 1901; a common resident throughout Vancouver island. (*Spreadborough.*) Not rare between Athabaska Landing and Lesser

Slave river; first seen May 29th; not rare on the Clearwater river up to Methye portage. (*J. M. Macoun.*) British Columbia. (*Lord.*) Common on the coast and in the interior. (*Streator.*) Common east and west of Coast range; winters on Vancouver island. (*Fannin.*) Tolerably common resident from the valley at Chilliwack to timber line on Coast range. Common around Lake Okanagan, B.C., in winter, associating with chickadees. Rather common in winter in the Cariboo district of B.C. (*Brooks.*)

Two specimens were taken in Cumshewa inlet, Queen Charlotte islands, B.C., June 18th and June 22nd respectively. No others were seen during our stay. (*Osgood.*) I took a male at Skagway, Alaska, May 31st, and another at Log Cabin, June 20th, and heard one on an island at the junction of the Lewes and Pelly rivers, near Fort Selkirk, Yukon district, July 26th. This species has not heretofore been noted in the Yukon valley. (*Bishop.*)

Breeding Notes.—The eggs of this species are laid by May 10th, at Scotch Lake, York co., N.B., in a hole excavated in a dead tree, preferably a spruce or fir. The nest is generally about four inches below the entrance, and is composed of bark, fibre, fur and a few feathers. The cavity is about three inches in diameter and is sometimes made with great labour. On one occasion a pair were found digging a cavity, March 26th, and at that date could get half the size of the bird into the hole. Knots were struck about two inches down and late in April they had to give up their site and find a new place. Before leaving they had collected quite a coating of balsam about the entrance, perhaps for the purpose of keeping out large ants or mice. Both male and female work at nest making. The number of eggs is six, each of which is set in a light depression in the nest lining. (*W. H. Moore.*) In June, 1893, I found this bird nesting at Rush lake, Sask. There are no trees at Rush lake, so the bird laid its eggs in a hole in a beam on the stable-roof. (*W. Raine.*) Last summer I found a nest of the red-breasted nuthatch. It was dug in a rotten stump five feet from the ground, and contained young birds almost able to fly. Around the entrance to the nest was a ring of pine or balsam gum, and as I saw the young birds picking at it I inferred it was an insect trap. I also found three nests of the chickadee, and each was lined with the hair of *Lepus americana*. (*A. Kay* in *Trans. Can. Inst.*, Vol. III., 3rd Series.) I took a nest, May 26, 1903, seven

feet from the ground in a rotten birch at Kenora. (*W. E. Saunders.*)

730. Pygmy Nuthatch.

Sitta pygmæa pygmæa VIG. 1839.

British Columbia. (*Lord.*) Found only at Ducks where it was as common as the others. (*Streator.*) I have only found this bird east of the Coast range. (*Fannin.*) Rather common at Lake Okanagan, B.C. in winter. Confined to the regions of *Pinus ponderosa* in B.C., in summer. (*Brooks.*) Only found, and that sparingly, at Vernon near Lake Okanagan, B.C. (*Rhoads.*) Common on the hill-sides in the scattered timber at Penticton, Lake Okanagan, B.C.; it builds its nest in holes in trees anywhere from 6 to 40 feet from the ground; they have a remarkable way of caulking up the holes and seams in the trees around their nest with hair; they sometimes work 10 or 12 days making the nest; on April 15th, 1903, found a pair building their nest; chopped the same out May 1st and found six eggs; the bird covered them with feathers on leaving the nest so I suppose she had not finished laying. A pair building a nest in a hole in a tree in the town of Midway, B.C., April, 1905 and one seen at Sidley. (*Spreadborough.*)

CCLXXVI. PENTHESTES REICHENBACH. 1850.

735. Chickadee.

Penthestes atricapillus atricapillus (LINN.) RIDGW. 1904.

Locally common in timbered parts of northeastern Labrador. (*Bigelow.*) I am informed by credible persons long resident in the country, that two species of chickadees occur at Northwest river, at the head of Hamilton inlet. (*Packard.*) Common and resident throughout the year on Newfoundland. (*Reeks.*) Most abundant along the Humber river, Newfoundland, 1899. (*Louis H. Porter.*)

Abundant resident at Halifax, N.S. (*Downs.*) Common in Nova Scotia. (*H. F. Tufts.*) Common at Baddeck and Margaree, Cape Breton island, N.S., July, 1898; quite common in woods at Brackley beach, Prince Edward island, June, 1888. (*Macoun.*) Occasionally, small roving families were encountered on Prince

Edward island, so that it is a fairly common species. (*Dwight.*) An abundant resident throughout the year at St. John, N.B. (*Chamberlain.*) An abundant and permanent resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Not uncommon in the Restigouche valley, N.B. (*Brittain & Cox.*)

Quite common at Lake Mistassini, northern Quebec. (*J. M. Macoun.*) A common and permanent resident, but most common in spring and autumn. (*Dionne.*) A common winter visitant; observed from September 17th to April 25th. (*Wintle.*) A common resident at Ottawa. (*Ottawa Naturalist,* Vol. V.) very common species in eastern Ontario; about Lansdowne, Ont., I met with the nest in May containing six eggs. (*Rev. C. J. Young.*) Common resident at Toronto, Ont., breeds. An abundant breeding resident in Parry Sound and Muskoka districts, Ont. (*J. H. Fleming.*) Common everywhere in Algonquin park, Ont., in summer; saw a pair making a nest in a rotten stump, June 18th, 1900; another pair was seen building a nest in a hole in a birch tree on July 15th; they appear to work only early in the morning at building their nest. Common from Missinabi, Ont. to Moose Factory, James bay. (*Spreadborough.*) Resident the year round at London, Ont., but less common in summer than at other seasons. (*W. E. Saunders.*) Very common resident at Guelph, Ont. (*A. B. Klugh.*) An abundant resident at Penetanguishene, Ont. (*A. F. Young.*) Has been taken at Moose Factory, James bay, on two occasions. (*E. A. Preble.*)

Breeding Notes.—This species nests at Scotch Lake, N.B., from April to August. Sometimes it uses an old woodpecker's nest, lining it with dark fibres, fur and a few feathers. From five to eight eggs are laid. (*W. H. Moore.*) Nest built in a tree or stump, at Ottawa, lined with hair, fine grass, moss and feathers. Eggs, six to eight, white, speckled and spotted with reddish-brown, chiefly towards the larger end. (*G. R. White.*) Nests in marshy thickets around Ottawa. On April 18th, 1903, a pair of birds was seen digging a hole in a fence post and on the 8th June, 1903, a nest with six young was discovered in a small stump. The opening, 18 inches from the ground, was one inch in diameter; the nest was a mixture of short hairs, green moss and feathers, and was at a depth of six inches in the stump. (*Garneau.*) A common resident in Ontario; it breeds in a hole of a stump excavated usually by the bird itself

about the middle of May, I have seen fresh eggs on the 15th of the month. In its habit of excavating a hole for itself it resembles the European marsh titmouse, the only one of the titmice that does so. In its note, and otherwise, it closely resembles this species (*Parus palustris*). Though during spring and summer it is a bird of the woods, in cold winter weather it approaches the homes and outbuildings; the present winter (1904) this was especially the case. (*Rev. C. J. Young.*) Specimens collected by Streator, Fannin and Spreadborough in central British Columbia are said by Ridgway to be this species.

735*a*. Long-tailed Chickadee.

Penthestes atricapillus septentrionalis (HARRIS) RIDGW. 1904.

One taken at the Lower Echimamish, June 24th, 1901. (*E. A. Preble.*) A specimen of this form was procured at Chief Mountain lake, Rocky mountains, on August 28th, 1874. (*Coues.*) Resident in Manitoba in wooded sections. The Manitoba bird is not strictly *septentrionalis* but is nearer to that form than to *atricapillus*. (*E. T. Seton.*) A common breeding resident at Aweme, Manitoba. (*Criddle.*) Abundant resident in all the wooded districts of Manitoba and noted west as far as Edmonton in 1906. (*Atkinson.*) Tolerably common in the Cypress hills and the upper part of Maple creek, Sask. (*Bishop.*) Only one individual was seen in a three months' residence at Indian Head, Sask., in the spring of 1892; two were seen in a willow thicket in the east end of the Cypress hills, June 27th, 1894; common from Lesser Slave lake to Peace River Landing, lat. 56° 15′, in June, 1903; tolerably common at Edmonton, Alta. by April 17th; May 25th found a nest in a poplar stub about seven feet from the ground, the nest containing eight young; common from Edmonton to Athabaska pass in June, 1898; observed a number on Elbow river and at Crow Nest lake, July 31st, 1897; common and breeding in the mountain woods at Banff, Rocky mountains, in the summer of 1891; shot at Revelstoke, B.C., on April 9th, 1890, fairly common during April and May; in June it was common at Deer Park, on the Columbia river; a nest containing four eggs was taken at Robson on June 24th, 1890, it was on an old tree hanging over the water of Pass creek; observed about a dozen at Penticton, B.C., in April, 1903; several seen in the Kootenay valley near Elko, B.C., in 1904, and several south of Hope, B.C., in 1905.

(*Spreadborough.*) A common and permanent resident around Prince Albert, Sask. (*Coubeaux.*) One specimen taken at the Grand rapids of the Saskatchewan. (*Nutting.*) Not rare at Athabaska Landing and up the river to Lesser Slave river; common at Fort McMurray, lat. 56° 40′, but rare up the Clearwater river to Methye portage, seemingly displacing *P. hudsonicus*; common between Methye lake and Isle à la Crosse. (*J. M. Macoun.*) According to the dimensions given, the male bird seen at Carlton House by Richardson belongs to this species. Length 5½ inches, length of tail 2⅝ inches. (*Macoun.*) Abundant along Great Slave river to the delta. (*E. T. Seton.*) North to Fort Simpson on the Mackenzie river. (*Ross.*) Common throughout the valleys of the interior. (*Streator.*) I found this bird very common on the wooded hills east of the Coast range, especially in the neighbourhood of Cornwallis. (*Fannin.*) Abundant nearly everywhere around Lake Okanagan, B.C., in winter. A common species in winter in the Cariboo district of British Columbia. (*Brooks.*) Abounds in the inter-mountainous regions of British Columbia up to 3,000 feet. (*Rhoads.*) Turnagain arm and Tyanook, Cook inlet, Alaska. (*Osgood.*) Sheep creek, Alaska. (*Anderson.*) It is probable that all the above references from central British Columbia should go to *atricapillus* as forming part of the so called western "colony."

735*b*. Oregon Chickadee.

Penthestes atricapillus occidentalis (Baird) Ridgw. 1904.

Not uncommon in the woods at Agassiz, and Hastings, B.C., in April and May, 1889; common at Chilliwack, B.C., also along the river to the head of Chilliwack lake, in July, 1901; several seen at Douglas, B.C., in 1906. (*Spreadborough.*) British Columbia. (*Lord.*) Common in the coast reigon. (*Streator.*) A common resident west of Coast range. (*Fannin.*) Abundant resident at Chilliwack. (*Rhoads.*)

735*c*. Yukon Chickadee.

Penthestes atricapillus turneri (Ridgw.) Ridgway. 1904.

Alaska west and north of Cook inlet. (*Ridgway.*) This species ranges through the Yukon district; during a warm period of winter these birds were occasionally seen at St. Michael. They retire to

the interior in May and are not seen on the coast in the summer months. (*Turner.*) Throughout the wooded regions of Alaska, from the moist, heavily-wooded coast in the Sitkan and Kadiak regions north throughout the entire Yukon and adjoining country this bird is a common resident. (*Nelson.*) We took this species at Bennett, June 19th, west shore of Lake Bennett, June 24th, Cariboo Crossing June 26th, Lake Marsh, July 7th, and Lake Lebarge July 15th, but did not notice it again until we reached the lower Yukon, although chickadees were heard several times whose specific identity was not determined. Thirty miles below Holy Cross Mission I took two, August 25th, and at the Aphoon mouth I saw a small flock August 28th. Young able to fly were taken July 7th. One taken, August 25th, had completed the moult into first winter plumage, while an adult taken the same day was in fresh plumage. (*Bishop.*) On the 26th October, 1898, I was hunting in the willow bottoms along the Hunt river north of our winter quarters on Kotzebue sound, Alaska, when I met with this species for the first time. (*Grinnell.*) One adult male taken at Muller bay, Alaska. (*Anderson.*)

738. Mountain Chickadee.

Penthestes gambeli (Ridgw). Ridgway. 1904.

A common summer resident at Banff, Rocky mountains, in 1891; three shot on the mountains at Deer Park, Columbia river, B.C.; observed two on a mountain north of the Little Miette river, Athabaska pass, Rocky mountains, 1898; a common summer resident at Robson, B.C.; young full-grown and fledged by June 26th, 1890; abundant at Spence Bridge, B.C., in May, 1889; common on Sophie mountain at 4,400 feet altitude, on the International Boundary, B.C., in 1902; observed about a dozen at Penticton, B.C., in April, 1903; common at Elko, B.C., in May, 1904, a pair building a nest in a hole in a live larch about fourteen feet from the ground, May 9th, 1904. (*Spreadborough.*) British Columbia. (*Lord.*) Abundant about the mountains of the interior; breeds. (*Streator.*) Wooded hills east of Coast range and in Rocky mountain district. (*Fannin.*) I never secured this species but am confident I saw it on the Coast range, B.C.; rather common around Lake Okanagan, B.C., in winter; observed occasionally at Quesnel, in the Cariboo district of B.C., in winter. (*Brooks.*) Found in the interior mountains of British

Columbia, but not in the Rockies. (*Rhoads.*) Rather common in spring at Golden, on the Columbia river; also in the Selkirk mountains, B.C. (*E. F. G. White.*)

739. Alaskan Chickadee.

Penthestes cinctus alascensis (PRAZAK.) RIDGWAY. 1904.

On June 1st, 1864, a nest of this species containing seven eggs was found near Fort Anderson in a hole in a spruce stump at a height of six feet from the ground. This was the first discovery of the nest of this bird on the American continent. It was composed of a moderate quantity of hare or rabbit fur, intermixed with a sprinkling of dried moss. (*Macfarlane.*) The habitat of this bird includes, as far as known, the spruce forests in northeastern Siberia, extending across a very similar region in the northern half of Alaska and reaching the Anderson river on the east. (*Nelson.*) Several specimens of *Parus* were obtained from various localities in the Yukon district. They were referred to the species *cinctus*. Later examinations show that these are identical with *P. obtectus*, Cab. (*Turner.*)

740. Hudsonian Chickadee.

Penthestes hudsonicus hudsonicus (FORST.) RIDGWAY. 1904.

From the shores of Hudson bay, northwestward to Alaska (north and west of Cook inlet), as far as the valley of the Kowak river. (*Ridgway.*) Abundant everywhere in the wooded tracts. Young were obtained, July 19th, 1882, at Davis inlet, and early in August at Fort Chimo. (*Packard.*) Observed a number about fifteen miles inland from Richmond gulf, July 6th, 1896; next observed at George river, September 18th, where they were common. (*Spreadborough.*) A moderately common winter migrant at Ottawa; early fall records are October 31st, 1883, and October 20th, 1889. (*Ottawa Naturalist*, Vol. V.) Mr. Kay saw a pair at Port Sydney, Muskoka, in November, 1892; one record from Richmond hill, thirteen miles north of Toronto, Ont. (*J. H. Fleming.*) I watched for a considerable time at close range a specimen of this bird near London, Ont., January 27th, 1907. It was feeding with a mixed lot of chickadees and redpolls. (*W. E. Saunders.*) We first met this species on the Echimamish river, June 24th. We noted it again at Robinson portage,

three days later, and found it common at Oxford House, where we secured a male, July 3rd. We saw several on an island in Knee lake, July 5th, and a number at York Factory, July 13th, collecting two on the latter date. On our return we saw several on Hill river, September 3rd. (*E. A. Preble.*)

Found only in the north and east of Manitoba among the great coniferous forests; permanent resident. (*E. T. Seton.*) Two specimens of this species were secured at Grand rapids of the Saskatchewan. (*Nutting.*) First noticed at Sulphur springs, on the Clearwater river, about latitude 56° 30′; very common from there to Methye portage and across the portage, and from Methye lake to Isle à la Crosse. (*J. M. Macoun.*) North to Fort Simpson, on the Mackenzie river, not common. (*Ross.*) This bird has been found throughout the wooded portion of Alaska from its southern coastline at Fort Kenai north through the Kuskoquim and Yukon river regions to the northern tree-limit, well within the Arctic circle. (*Nelson.*) A number of specimens of this species was obtained from Fort Yukon, Nulato, and several from St. Michael. It visits the coast only during the winter. It is a constant resident of the wooded districts and in some localities is quite abundant. (*Turner.*) Very common at Tyonek, but rarely seen at Hope; two specimens were taken at Fort Kenai by Bischoff. Cook inlet specimens do not seem to differ from those of the Yukon and Kowak valleys. I am also unable to find any appreciable differences between them and three birds recently collected by E. A. Preble near the type locality of *hudsonicus*. Consequently, I do not agree that the specimens at present available warrant the recognition of *Parus hudsonicus evura*. From a rather hasty examination of the material in the National Museum, there seems to be an average difference in the length of the tail between the Alaska birds and the birds from the extreme northeastern United States. The birds from the west side of Hudson bay, however, are intermediate and apparently nearer to the Alaska birds. In other words, as far as present material goes, there are just as good grounds for the recognition of *Parus hudsonicus littoralis* Bryant, 1863, from Nova Scotia, as for *P. h. evura* Coues, 1884, from Alaska. (*Osgood.*)

We took the Yukon chickadee at Cariboo Crossing, June 27th; Lake Tagish, June 30th; Lake Marsh, July 5th, and Lake Lebarge, July 14th; and after reaching Thirty-mile river, July 19th, found it

regularly distributed in families or large flocks, all the way to Fort Yukon, fifteen miles above which I saw a flock, August 21st. At St. Michael, I took a young female in first winter plumage, September 20th. Young able to fly were taken, July 5th, and moulting birds, August 13th. We took adults in full moult, June 27th, and one in which the moult was almost completed, July 24th. (*Bishop.*) At our winter camp, on the Kowak, Kotzebue sound, Alaska, this species was common up to September. After that date and up to the first of April, but one or two at a time were seen and then only at long intervals. Early in September, groups of four to seven were noted nearly every day in the spruces around the cabin. Those chickadees observed during the winter were all in the dense willow thickets along Hunt river. By the first of May, the chickadees were back again roving through the woods in pairs. Old woodpecker holes were selected as nesting sites, and I spotted nests in process of construction by the 15th May, but through various mishaps I failed to secure any eggs. (*Grinnell.*)

Breeding Notes.—On July 22nd of this year (1903), whilst tramping through a large cedar swamp, I became interested in the actions of a Hudsonian chickadee. I watched it for some time searching for insects, when suddenly it disappeared behind a small cedar with a larva in its bill. I did not expect to find a nest, as the top of the tree was green, but, on going around on the other side, perceived a small almost circular hole with jagged edges, about twelve feet from the ground. On rapping the treee, the bird left and became very much excited, nervously flitting back and forth from the nest. Cutting away a portion of the wood, I found the nest to contain young a few days old, six of them, I think. The spot chosen for the nest-site was the best that could be found in the swamp, situated, as it was, on a small spruce knoll near by an ice cold spring which fed a small brook. The tree, as I mentioned, was still green at the top, but from the nest cavity down was decayed and hollow at the core. Returning some time after this, to give the young a chance to vacate, I found the nest to be about ten inches below the entrance hole, which was two inches in diameter. It was composed of particles of moss, lichens and strips of soft inner bark of the cedar, felted together with rabbit's and deer's hair. (*L. M. Terrill.*)

740*a*. Acadian Chickadee.

Penthestes hudsonicus littoralis (BRYANT) RIDGW. 1904.

Southeastern British provinces (southern Labrador, Quebec, New Brunswick, Nova Scotia, etc.) (*Ridgway.*) Breeds; is common, and does not migrate from Newfoundland. (*Reeks.*) A rather common resident at Halifax, N.S. (*Downs.*) Not uncommon at Baddeck and Margaree, Cape Breton island, July, 1898; common in spruce trees at Brackley Point, Prince Edward island, June 26th, 1888. (*Macoun.*) Tolerably common on Prince Edward island. (*Dwight.*) This seems to be the commonest chickadee on the Magdalen islands; I met with it frequently there in June, 1897, and found two nests containing young the middle of that month. The nest was built in a small spruce stump about two feet down, the hole being entered from the top. In one case the nest rested on the ground, the stump being not more than eighteen inches high. I never saw this bird in Ontario. (*Rev. C. J. Young.*) Met with at all seasons at St. John, N.B. (*Chamberlain.*) A common permanent resident at Scotch Lake, York county, N.B. (*W. H. Moore.*) Not uncommon in the Restigouche valley, N.B. (*Brittain & Cox.*) Common on the Magdalen islands. (*Bishop.*) Not so common as the black-capped chickadee. It breeds in the northern part of Quebec province; taken at Beauport. (*Dionne.*) A rare winter visitant at Montreal. Mr. Kuetzing has found this species in Hochelaga woods from November 1st to December 7th. (*Wintle.*) The Quebec citations should, perhaps, go under *hudsonicus*.

BREEDING NOTES.—One nest of this species found at Scotch Lake, N.B., was in a fir stub about fifteen feet from the ground; the hole was lined with hair and fur. Eggs, six; hatched June 1st; June 28th, found a nest of six young birds ready to leave the nest. (*W. H. Moore.*)

740*b*. Columbian Chickadee.

Penthestes hudsonicus columbianus (RHOADS) RIDGW. 1904.

Shot one on May 7th, 1897, at Edmonton, Alta., the only one seen; one seen at Bear creek, Peace river, lat. 56°, August 5th, 1903; common in spruce woods along the Athabaska river at Jasper House, Alta., in June, 1898. (*Spreadborough.*) One specimmen of

this species was shot on the summit of Toad mountain, near Nelson B.C., at an altitude of 6,700 feet in July, 1890, and one in Eagle pass, near Revelstoke, B.C.; two specimens were taken on Moose mountain, near the source of Elbow river, and two others observed at the source of Fish creek, Rocky mountains in July, 1897. (*Spreadborough.*) Four specimens of *Parus* from the central Rocky mountains near Field, B.C., taken in a deep forest at an elevation of 5,000 feet differ so materially from *Parus hudsonicus* that it seems proper to separate them. (*Rhoads.*) Rather common at Lake Okanagan, B.C., in winter. I also took this species on the divide between Nicola and Okanagan valleys, the most westerly point I have observed it. Abundant in the heavy spruce timber and on high elevations, in winter, in Cariboo district, B.C. (*Brooks.*) Rocky mountains, from Liard river south into Montana. (*Rhoads* in *The Auk*, Vol X., p. 331.) An adult male was taken at Homer in June, and two specimens on September 12th, 1901, in 1st winter plumage. Not common but seen at all places visited on the Kenai timber belt in Alaska. It was usually found in the dead spruce groves of the more open country. (*Figgins.*) Three adults and three juvenals taken at Seldovia, Alaska, July 3rd to 28th; two in winter plumage, August 19th and October 7th, at Sheep creek and Moose camp. (*Anderson.*)

741. Chestnut-backed Chickadee.

Penthestes rufescens rufescens (TOWNS.) RIDGW. 1904.

Very common in the woods at Hastings, Burrard inlet, B.C., in April, 1899; none were seen at Agassiz, about 50 miles up the Fraser river in May; an abundant resident on Vancouver island, nesting, April 16th, 1893; on May 5th found a nest in a hole in a dead tree; nest made of moss, lined with feathers; saw several in the bushes on the beach at Douglas, B.C., April 17th, 1906, and several along the Chilliwack river; common at Clayoquot, Vancouver island, September and October, 1907. (*Spreadborough.*) From about lat. 60°, on the southeastern coast of Alaska, south into California this titmouse is abundant and breeds throughout the greater part of its range. (*Nelson.*) British Columbia. (*Lord.*) Common in the coast region; breeds. (*Streator.*) A common resident west of the Coast range; breeds close to Victoria. (*Fannin.*) Tolerably common resident at Chilliwack; not uncommon around

Lake Okanagan, B.C., in winter. (*Brooks.*) Very common on the coast and islands of British Columbia, but not found east of the Coast range. (*Rhoads.*) Very common at English bay, Vancouver, August 8th, 1894. (*E. F. G. White.*) Common everywhere, especially in the younger firs at the heads of the bays and inlets. First young, fully fledged, taken June 26th, near Sitka, Alaska. (*Grinnell.*) Abundant on Queen Charlotte islands, B.C. Seven specimens taken by us. (*Osgood.*) We found a few at Haines and Skagway, Alaska, and I took one and heard another at Glacier, June 5th. A female taken at Skagway, June 3rd, had finished laying. (*Bishop.*) A very complete account of the origin and distribution of this species by Joseph Grinnell was published in *The Auk*, Vol. XXI, p. 364 *et seq.*

CCLXXVII. **PSALTRIPARUS** Bonaparte. 1850.

743. Puget Sound Bush-tit.

Psaltriparus minimus saturatus Ridgway. 1904.

I shot two specimens out of a considerable number on 25th November, 1899, but could not find any the next day at the same place, nor have I ever seen them before, though I have looked out for them. (*Brooks.*) This last reference is presumably to the Fraser river valley. (*Macoun.*)

Family LV. **SYLVIIDÆ.** Warblers, Kinglets, etc.

CCLXXVIII. **ACANTHOPNEUSTE** Blasius. 1858.

Acanthopneuste borealis kennicotti (Baird Ridgw. 1904.

Western Alaska (St. Michael, Nushagak, Alloknagik river, Kowak river, etc.) (*Ridgway.*) The original record of this bird in America was based on the capture of a single specimen at St. Michael, on August 16th, 1866, by the naturalist of the Western Union Telegraph expedition. During the summer of 1877, on July 26th and 31st, I obtained two specimens on each of the days mentioned, as they were searching the old board fences surrounding the houses at St. Michael. A few others were obtained later and they were seen the next year. (*Nelson.*) Two were discovered flitting rapidly among the foliage of some birches a hundred yards back from the Kowak river Kotzebue sound, near our winter cabin. Their be-

haviour closely resembled that of the ruby-crowned kinglet. I saw Kennicott's willow warbler but once again, on the 14th of June, 1899, in the Kowak delta. I was following close around the margin of a small lake, when I found myself within twenty feet of a single individual which I at once recognized as of the same species taken the previous fall. The bird was close to the ground searching among some willow bushes and stunted spruces. (*Grinnell.*)

CCLXXIX. **REGULUS.** Cuvier. 1799.

748. Golden-crowned Kinglet.

Regulus satrapa satrapa Licht. 1823.

Fairly common in patches of spruce on the northeastern coast of Labrador, as far north as Aillik. (*Bigelow.*) Audubon, Vol. II., p. 165, found them feeding their young in August. (*Packard.*) A common resident in Nova Scotia. (*Downs; Tufts.*) A small flock was seen on Sable island, N.S., on October 2nd, 1902; one seen Sept. 30th, 1905 and several Oct. 7th; one, Sept. 29th, 1906 and two, June 18th, 1907. (*J. Boutelier.*) Common in the woods at Brackley point, Prince Edward island, July 17th, 1888. (*Macoun.*) Infrequently observed on Prince Edward island. Young were on the wing by the last of June; not uncommon at Baddeck, Cape Breton island, in June, 1887. (*Dwight.*) Rather common, most abundant in the fall and winter, but it breeds in New Brunswick. (*Chamberlain.*) A common and permanent resident at Scotch Lake, York county, N.B.; the young are about with the parents in late June. (*W. H. Moore.*)

A common but transient visitor at Montreal in spring and autumn. (*Wintle.*) A common spring and autumn migrant in eastern Quebec. (*Dionne.*) A not common migrant at Ottawa. (*Ottawa Naturalist*, Vol. V.) One of the commonest birds among pine and hemlock trees in the early spring; I see numbers every year; I observed them breeding on the Magdalen islands, in June, 1897, among the spruce, but could not find the nest; I never saw any in Ontario after the 1st of May. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont., irregular winter resident. An abundant winter resident; on two occasions I have met with birds in May, that from their actions must have been nesting. (*J. H. Fleming.*) Not at all unusual to see a small party of these little fellows sunning themselves on the

warm side of a cedar or spruce hedge during the coldest winter months around Toronto. (*J. Hughes-Samuel.*) A winter resident at Guelph, Ont. (*A. B. Klugh.*) Has been found two or three times near London, Ont., in late May, but no actual proof of breeding is yet reported. An abundant migrant, remaining through mild winters. (*W. E. Saunders.*) One seen on the lower Echimamish, June 24th, 1901. (*E. A. Preble.*)

A very rare migrant; but may breed in Manitoba. They are very uncertain in their movements. (*E. T. Seton.*) A rare migrant at Aweme, Manitoba. (*Criddle.*) A regular but not common migrant about the eastern half of Manitoba. (*Atkinson.*) Common in spruce woods from Jasper House to the summit of the Rocky mountains, in June, 1898; breed at Banff, Rocky mountains, but not so common as the ruby-crowned kinglet; common at Revelstoke, B.C., in 1890, up to April 20th, when all disappeared; breeding in the woods at Robson, B.C.; young shot, June 10th, 1890; common on Sophie mountain, on the International Boundary, B.C., at an altitude of 4,400 feet in 1902. (*Spreadborough.*) Seen near Grand Rapids of the Saskatchewan, but none were secured. (*Nutting.*) Common in the mountains southwest of Calgary, also in Crow Nest pass, July 28th, 1897. (*Spreadborough.*)

Breeding Notes.—A set of seven eggs in my collection was taken at Cartwright, Labrador, June 15th, 1895. The nest was suspended from a branch of a spruce tree, 15 feet from the ground. (*W. Raine.*)

748*a*. Western Golden-crowned Kinglet.

Regulus satrapa olivaceous Baird. 1864.

Frequent in woods at Hastings, Burrard inlet, B.C., in April, 1889. Saw a few at the foot of Chilliwack lake, B.C., July, 1901; common at Huntingdon, B.C., on the International Boundary in September of the same year; common on the Hope trail at head of Skagit river, B.C.; one seen at Douglas, B.C., May 14th, 1906 and breeding at Chilliwack lake, July 13th; a common resident on Vancouver island. (*Spreadborough.*) Very plentiful on Vancouver island and in British Columbia. (*Lord.*) Very common spring and fall migrant; a few remain to breed. (*Streator.*) Abundant throughout the district west of the Cascades. (*Fannin.*) Common winter resident, breeds

on the mountains; common throughout the winter at Lake Okanagan, B.C.; a few of these delicate little birds remain in Cariboo district, B.C., throughout the coldest weather. (*Brooks.*) I find no colour difference between the east and west of the Coast range. (*Rhoads.*) Common on the Queen Charlotte islands, B.C.; an adult male was taken at Cumshewa inlet, June 20th, 1899. Moderately common at Cook inlet, Alaska. (*Osgood.*) Tolerably common at Glacier above Skagway, Alaska; often heard but seldom seen and hard to procure; a female that I took on June 10th had the last egg ready for the shell. (*Bishop.*) A male and female were taken at Homer, Kenai peninsula, Alaska, September 26th, 1901, and a male at Sheep creek, on August 18th. (*Figgins.*) The Alaska records of this species are limited to the southeastern coast where it has been obtained at Sitka and Kadiak. (*Nelson.*) Common everywhere, particularly in the dense fir thickets along streams at Sitka, Alaska. On June 22nd, I observed the first young. (*Grinnell.*)

749. Ruby-crowned Kinglet.

Regulus calendula calendula (LINN.) LICHT. 1823.

One sent from Nenortalik, Greenland, in 1859. (*Arct. Man.*) Common in the southern portions of Labrador; Coues obtained a specimen in August at Rigolet; and Stearns shot a single specimen at Old Fort island, October 11th, 1881. (*Packard.*) Common at Moose Factory, June 9th, 1896; observed at Fort George, June 20th; common at Richmond gulf, July 1st. None seen inland. (*Spreadborough.*) Common at Baddeck, Cape Breton island. (*F. H. Allen.*) Uncommon at Halifax, N.S. (*Downs.*) Uncommon in Nova Scotia. (*H. F. Tufts.*) A small flock was seen on Sable island, N.S., on October 3rd, 1902; one seen May 4th, 1907. (*J. Boutelier.*) In pine woods, Brackley point, Prince Edward island, July, 1888. (*Macoun.*) An uncommon summer resident at St. John, N.B. (*Chamberlain.*) A rare summer migrant at Scotch Lake, York county, N.B. (*W. H. Moore.*) Common at Lake Mistassini, 1885, where it breeds. (*J. M. Macoun.*) Taken at York Factory, Hudson bay. (*Dr. R. Bell.*) Taken at Fort Churchill, Hudson bay. (*Wright.*) One female seen at Fox bay, Anticosti. (*Brewster.*) More common than the preceding in eastern Quebec. Taken at Beauport. (*Dionne.*) A common but transient visitant in spring and autumn at Montreal. (*Wintle.*)

A common migrant at Ottawa. (*Ottawa Naturalist*, Vol. V.) Abundant migrant at Toronto, Ont. A common resident in autumn and winter in Parry Sound and Muskoka districts. (*J. H. Fleming.*) From Missinabi, Ont. to Point Comfort on the east coast of James bay. Common during migration at Guelph, Ont. (*A. B. Klugh.*) I saw one at Norway House, June 17th, and took a specimen on the Echimamish, June 24th. It was common at Oxford House, June 30th to July 4th. One was observed as we ascended Hill river, September 1st. (*E. A. Preble.*)

This species was observed on Mouse (Souris) river, in September during the autumnal migration, frequenting the dense undergrowth in the river bottom in company with warblers. (*Coues.*) Uncommon migrant throughout Manitoba generally. (*Atkinson.*) A tolerably common migrant in spring and autumn in Manitoba. (*E. T. Seton.*) Common at Aweme, Manitoba, in spring and fall; probably breeds; arrives about April 25th, and leaves October 4th. (*Criddle.*) Only three specimens were found at Medicine Hat, Sask., in April and May, 1894; common in spruce woods from the mouth of Lesser Slave river to Peace River Landing, lat. 56° 15′, June, 1903; first seen at Edmonton, Alta., May 4th, 1897; tolerably common in the spruce woods and breeding without doubt; common in the spruce woods of the foothills from Edmonton to Crow Nest pass in July and August; quite common at Banff, evidently breeding early as there were young birds in May, 1891; a common species in April, 1890, at Revelstoke, B.C., but all seemed to be migrants; quite common on Sophie mountain on the International Boundary, B.C., at an altitude of 4,400 feet in 1902; common at Fernie, Elko, Midway and Sidley, B.C., and along the trail between Princeton and the Skagit river; quite common in the early part of April, 1889, at Hastings, Burrard inlet; shot on the mountains at Spence Bridge, B.C., late in May, 1889; very abundant at Huntingdon, B.C., on the International Boundary in September, 1901, and at Douglas, April 17th, 1906; apparently a summer resident on Vancouver island, seen first on April 18th when they were in large numbers in conifers with chickadees; first seen at Penticton, B.C., April 13th, 1903, abundant everywhere by the 20th and remained so until May 1st; common at Lake Ste. Anne, north of Edmonton, and from thence along the trail to the Athabaska pass in June, 1898; common at Fernie and Elko, B.C., in May, 1904. (*Spreadborough.*) Very

common at the south end of Methye portage. (*J. M. Macoun.*) North to Fort Resolution on the Mackenzie river; rare. (*Ross.*) There is no doubt but this bird is to be met with during the summer season on the Anderson river, but we found no nests. (*Macfarlane.*)

Seen only east of the Coast range. (*Lord.*) Found only in the coast region during autumnal migration. (*Streator.*) Abundant in the district west of the Coast range. (*Fannin.*) Common winter visitant at Chilliwack; breeds on the mountains. (*Brooks.*) Numerous on the coast of British Columbia in spring. Breeding in the interior. (*Rhoads.*)

This handsome species has been secured from various portions of the territory. The various Alaskan records include Fort Yukon, Nulato, Anvik, in the north, with Sitka and Fort Kenai on the southeastern coast. (*Nelson.*) Specimens of this bird were obtained from Fort Yukon, where it is common, breeding there. At Nushagak, on Bristol bay, I saw a single specimen of this bird flitting amongst the willows which skirt the river. (*Turner.*) On the 23rd August, I shot one specimen and saw two others in a willow copse bordering the Kowak, a couple of miles above our winter camp. I did not see the species again until June 10th, in Kowak delta, Kotzebue sound, Alaska. (*Grinnell.*)

Breeding Notes.—I have a beautiful nest containing eleven eggs that was taken at Dartmouth, Nova Scotia on June 1st, 1898; this nest was suspended from the branch of a black spruce tree, 20 feet from the ground; besides this one I have four others taken at the same place and all alike in structure; the nests were round balls of green moss well lined with feathers and were suspended from the branches of spruce trees. (*W. Raine.*) Breeding near 150-Mile House, B.C.; on the 11th June I found a nest in a small spruce not four feet high; the nest was close to the stem and about two feet from the ground; it was a very deep cup, almost a vertical cylinder; the sitting bird must have been entirely concealed; it contained five eggs, a sixth imperfect one was sticking in the foundation of the nest; it had evidently been pushed through the lining and a fresh floor built over it; the owners were raising a great outcry over the intrusion of a wandering brood of "whiskey jacks"; two grouse feathers were carefully put over the entrance to the nest, which made me think that it had been rifled by the jays and the lining pulled out. (*Brooks.*)

749*a*. Sitka Ruby-crowned Kinglet.

Regulus calendula grinnelli PALMER. 1897.

This kinglet was not very common, and I only observed it along Indian river, at Sitka, Alaska, in tall firs; I saw them in pairs on two occasions, but I secured no young. This kinglet doubtless breeds, though not in abundance; three adult males were secured. (*Grinnell.*) At Skagway, Alaska, I heard a Sitkan kinglet singing May 31st, and at Haines took a male and heard another singing June 1st. At Glacier I took a male, June 6th, and during our stay heard two or three others singing. While the Log Cabin bird is normal *calendula*, the Haines and Glacier birds have the more olive back and darker sides of crown of *grinnelli*. (*Bishop.*)

CCLXXX. POLIOPTILA SCLATER. 1851.

751. Blue-gray Gnatcatcher.

Polioptila cærulea cærulea (LINN.) SCLATER. 1855.

An accidental visitant at Montreal. Mr. Kuetzing saw one example of this species in Mr. Craig's collection, shot on the island of Montreal a number of years ago, but Mr. Craig says he does not remember having it in his possession. (*Wintle.*) Casual at Ottawa; one was shot by Mr. G. R. White, previous to 1881. (*Ottawa Naturalist*, Vol. V.) Three records at Toronto, Ont.; a male, May 9th, 1885, in Mr. Ernest Seton's collection; a female taken May 5th, 1891, by Mr. O. Spanner and a female taken May 10th, 1900, by Mr. C. W. Nash. (*J. H. Fleming*). A not uncommon summer resident of Ontario, west and south from London. (*W. E. Saunders.*)

FAMILY LV. TURDIDÆ. THRUSHES, SOLITAIRES, ETC.

CCLXXXI. MYADESTES SWAINSON.

754. Townsend Solitaire.

Myadestes townsendi (AUD.) CAB. 1847.

Observed at the Elbow river near Calgary, June 21st, 1897, common in the Rocky mountains south to Crow Nest pass in July, 1897; a common species at Banff, breeding on mountains high up; seen

everywhere in the mountains around the Athabaska pass, 1898; quite common at Revelstoke, B.C., from the 16th to the 20th April, 1890; they sat around on stumps and caught flies or flew down at anything they might see; in June they were seen at Deer Park, Arrow lake, at an elevation of 2,000 feet, and doubtless breeding; observed on nearly all the mountains on the International Boundary in British Columbia; only seen in the Okanagan valley, B.C., in the early part of April, 1903; all disappeared about the 15th; heard singing everywhere in the woods at Elko, B.C., from the snow to the level of the railway, May, 1904; common at Midway on the flat in early spring and, later on the hills, in 1905; saw several in the same year at Whipsaw creek, June 22nd, and between the Skagit river and Chilliwack lake; saw one on the beach at Douglas, B.C., April, 17th, 1906; one seen on Deer ridge, south slope of Mount Cheam, B.C., August 10th, 1901; two seen near the summit of Mount Benson, Nanaimo, Vancouver island, July 10th, 1893, the birds had a nest in the side of the bank close to the rocky summit. (*Spreadborough.*)

Very rare, only shot once in the Columbia valley. (*Lord.*) A rare bird though I have taken it both east and west of the Coast range, and have taken it at Ladners, in the lower Fraser valley, in January. (*Fannin.*) Rare migrant in the valley at Chilliwack; breeds on the mountain tops; tolerably common in winter at Lake Okanagan, B.C.; sings throughout the winter; feeds on fruit during the cold weather. (*Brooks.*) I secured an individual on Vancouver island in May. They were met with at high altitudes both east and west of the Coast range, Selkirk and Rockies, as far north as the 52nd parallel, increasing in abundance eastwardly. (*Rhoads.*) On the heights above Bennett I took an adult male, June 17th; on the hot noon of June 26th, while seated on the summit of a hill some 1,500 feet above Cariboo Crossing, I heard the most beautiful bird-song that has ever delighted my ears. It seemed to combine the strength of the robin, the joyousness and soaring quality of the bobolink, and the sweetness and purity of the wood thrush. Starting low and apparently far away, it gained in intensity and volume until it filled the air, and I looked for the singer just above my head. I finally traced the song to a Townsend solitaire that was seated on a dead tree about 150 yards away, pouring forth this volume of melody without leaving its perch. The singer came close enough later to make its identification certain.

Osgood and Maddren saw one at Lake Lebarge, July 14th. Osgood took an adult at Miles cañon, July 11th, another at the Semenow hills, July 20th, a young one in the spotted plumage, 20 miles below the Selwyn river, July 29th, and another young, 30 miles above the White river, July 30th. I saw an adult near the Selwyn river, July 29th, and took a moulting adult near Sixty-mile creek, August 1st. Mr. Cantwell found this species in the Yukon valley. (*Bishop.*)

Breeding Notes.—This bird breeds at Banff, Rocky mountains. On June 9th, 1893, we found its nest and four eggs. The nest was built on a bank side, and we caught the bird as she flew off the nest. Other nests were taken at Banff, 1893, and these also were placed on the side of the bank. (*W. Raine.*)

CCLXXXII. **HYLOCICHLA** Baird. 1864.

755. **Wood Thrush.**

Hylocichla mustelina (Gmel.) Ridgw. 1880.

Accidental visitant at Montreal. This thrush is said to occur in the Eastern Townships, but I have never met with it in this district yet. Have seen one specimen taken at Roxton falls, Que. (*Wintle.*) A rare summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) I have seen a few of these birds in Leeds county, Ont., but they are not common. A few breed as I have met with a nest from which the young had flown, that evidently belonged to this species; and another on a limb of a hemlock about eight feet from the ground in Frontenac county, in June, 1902. (*Rev. C. J. Young.*) Regular migrant at Toronto, Ont.; rare summer resident, breeds. I have one taken at Emsdale, Parry Sound district, on May 17th, 1897; in September, 1898, near the narrows of Lake Joseph, I came across a flock feeding on choke-cherries. I counted seventeen and there were more in the flock. Dr. Brodie says they were common in June at Port Sydney, Muskoka. (*J. H. Fleming.*) Common during migrations; breeds in limited numbers at Guelph, Ont. Arrives about May 10th and leaves about September 11th. (*A. B. Klugh.*) A common resident and breeding at Penetanguishene, Ont., I once found a nest in a hardwood undergrowth, placed in the forks of a beech about seven feet from the ground. (*A. F. Young.*)

756. Wilson Thrush.

Hylcoichla fuscescens fuscescens (STEPH.) RIDGW. 1880.

A summer migrant in Newfoundland. (*Reeks.*) One seen September 14th, 1899, on the Humber river, Newfoundland. (*Louis H. Porter.*) Not very common in Nova Scotia; seen only inland; breeds at Stewiacke. (*Downs.*) Uncommon summer resident in Nova Scotia. (*H. F. Tufts.*) Rare in woods at Brackley point, Prince Edward island, July 4th, 1888; also on Cape Breton island in 1898. (*Macoun.*) A summer resident in the neighbourhood of St. John, N.B. (*Chamberlain.*) A tolerably common summer resident along the St. John river, Scotch Lake, York county, N.B. (*W. H. Moore.*) Common summer resident on the Magdalen islands. (*Bishop.*) One pair breeding at Ellis bay, Anticosti, July 24th. (*Brewster.*)

Common summer resident at Montreal; breeds in Mount Royal park; nests with eggs found from May 31st to June 27th. (*Wintle.*) This is a common summer resident in eastern Quebec. Taken at Beauport (*Dionne.*) A common summer resident around Ottawa. (*Ottawa Naturalist* Vol. V.) A very common bird, breeding in numbers in eastern, Ontario. (*Rev. C. J. Young.*) Abundant migrant at Toronto, Ont.; common resident, breeds. An abundant summer resident in Parry Sound and Muskoka districts. (*J. H. Fleming.*) Not uncommon in Algonquin park, Ont., in summer of 1900; saw one at Missinabi, Ont. in 1904. (*Spreadborough.*) Very common summer resident at Guelph, Ont. Arrives about May 8th, leaves about September 10th. (*A. B. Klugh.*) Summer resident and breeding at Penetanguishene, Ont. (*A. F. Young.*)

BREEDING NOTES—Breeds in numbers in woods around Ottawa. The nest is made of dried leaves mixed with grass, bark or branches, and is placed near a tree on a bed of leaves, in a low bush or sometimes on a stump. Four eggs are usually laid in May or June. (*Garneau.*) Nest on the ground or in a low bush, composed of withered leaves, grass stems, weed stalks, and bark strips, compactly woven inside but with no special lining. Eggs 4 or 5, greenish-blue with no markings. (*G. R. White.*) The nest is placed on or near the ground, in bushes, at Scotch Lake, York county, N.B., and is composed of grasses, leaves, etc., lined with rootlets. Eggs 3 or 4. (*W. H. Moore.*)

756a. Willow Thrush.

Hylocichla fuscescens salicicola RIDGW. 1882.

Only one specimen known, taken by myself, at Ottawa, Sept. 19th, 1898. It seems probable that this bird may be regularly taken in Ontario from Sept 1st to 25th as it appears to have a breeding ground to the north of us, but has been overlooked in the past on account of its similarity to Wilson's thrush. (*W. E. Saunders.*) I have one specimen from the McIlwraith collection, taken at Hamilton, Ont., May 16th, 1895. (*J. H. Fleming.*) The characteristic "veery" call-note and song were heard several times, and the singer was seen once as we floated down Red river between Winnipeg and West Selkirk, June 14th. None were taken but specimens from the region seem referable to the western form. (*E. A. Preble.*) Unlike the other species of this genus this form does not appear to extend westward beyond the valley of Red river; at any rate it was only observed in the vicinity of Pembina. Here it was found breeding in abundance during the month of June. A nest was found on the 9th June, containing four fresh eggs of a uniform bluish-green colour. It was placed upon a small heap of decayed leaves which had been caught on the footstalks of a bush a few inches from the ground, and composed of weed-stems, grasses and fibrous bark-strips, woven together, and mixed with withered leaves. The walls were thick, giving a bulky, irregular, and rather slovenly appearance. (*Coues.*) An abundant summer resident of thickets in Manitoba. (*E. T. Seton.*) A tolerably common breeding summer resident at Aweme, Manitoba; arrives about May 15th and leaves about the 1st of September. (*Criddle.*)

An abundant breeding species in wooded districts throughout Manitoba and equally numerous along the line of the G. T. P. Ry. west to Edmonton, Alta., in 1906. (*Atkinson.*) Common along creeks in S.W. Saskatchewan in 1906. (*A. C. Bent.*) This species seems to be a spring migrant at Indian Head, Sask.; it was first observed May 19th, 1892, and soon became common but disappeared about the end of May; this was a common species at Old Wives creek, Sask., and wherever there was brush at Wood mountain and west to Frenchman river and the ravines in the southern part of the Cypress hills; common along Milk river, St. Mary river and Lee creek, Cardston, Alberta; common on the International Boundary between

Trail and Cascade, B.C., in the summer of 1902, found a nest on June 14th in a low bush not more than two feet from the ground, made of dry grass, weeds and dirt, lined with fine dry grass; two eggs were quite fresh; at Crane lake, Sask., June 11th, 1894, this species was common along Skull creek where a number of nests were taken; it was also common in the east end of the Cypress hills, among the brush along the sources of Swift Current creek; only one pair seen at Banff in the summer of 1891; quite common at Revelstoke, B.C. on May 30th, 1890, in a day or two they became scarce; first seen at Edmonton, Alta., May 11th, 1897, June 11th, found a nest on the ground, containing two eggs; nest composed of weeds, leaves and dirt, lined with dry grass, eggs blue; common from Lesser Slave river to Peace River Landing, lat. 56° 15,′ in June, 1903; observed from Edmonton to Athabaska pass in June, 1898. (*Spreadborough.*)

This bird makes its appearance on the banks of the Saskatchewan in the month of May, but whether it breeds there or goes further north I am unable to say. (*Richardson.*) Not uncommon around Prince Albert, Sask.: I once found its nest with four unspotted blue eggs. (*Coubeaux.*) Common in the interior. (*Streator.*) Common east of the Coast range; a summer resident. (*Fannin.*) In all visited localities of the interior; breeding at Lac la Hâche, B.C. This extends Mr. Streator's nesting record of the species 150 miles further north. (*Rhoads.*)

757. Grey-cheeked Thrush.

Hylocichla aliciæ aliciæ (Baird) Ridgw. 1880.

Apparently common on the northeastern coast of Labrador as far north as Aillik. (*Bigelow.*) Rare in Ungava. Common in southeastern and southern portions of Labrador. Breeds wherever found in summer. Nest and eggs procured at Fort Chimo, June 28th, 1884. (*Packard.*) One specimen obtained in June, 1845, at Amarglik, near Godthaab, Greenland, and named *Turdus minor* by Professor Reinhart, is referred to this species as Mr. Turner finds this species to extend furthest north in Labrador. (*Macoun.*) One taken and others seen on the Magdalen islands. (*Bishop.*) Taken at Fort Churchill, Hudson bay. (*Wright.*) I have not shot a specimen of this bird in the Montreal district yet, but have noticed

some large thrushes which I have been uanble to identify as I could not shoot them with my cane gun. (*Wintle.*) Regular migrant at Toronto, Ont.; rare in spring, not uncommon in fall. (*J. H. Fleming.*) One taken at the mouth of Hannah river, James bay. (*Spreadborough.*) Not met with until we reached York Factory, where a female and two young just from the nest were taken in a dense willow thicket, July 13th. The young bird may be described as follows: Back and head dark olive-brown, each feather tipped with dusky and with a longitudinal spot of brown; rump and upper tail coverts, brownish spotted with rusty; lower parts white, slightly tinged on breast and sides with buffy, each feather tipped with a dusky bar, those on breast heavily marked, the marking decreasing in size posteriorly; throat almost unmarked; cheeks greyish, spotted with dusky; wings and tail olive-brown, the wing quills lighter on outer edges. I again met with the species, July 25th at Fort Churchill, where I saw several in stunted spruce woods. (*E. A. Preble.*) Migrant at Carberry, Manitoba; and reported common at Winnipeg by Hine. (*E. T. Seton.*) One specimen of this species was secured at Indian Head, Sask., on May 23rd, 1892; there may have been many others, but all were believed to be Wilson's thrush, which was common at the time. Taken at Old Wives creek, Sask., May 30th, 1895. (*Spreadborough.*) Abundant migrant and common breeder at Aweme, Man. (*Criddle.*) Common migrant all over Manitoba; breeds occasionally about Winnipeg, Portage la Prairie, Birtle and Fort Ellice, Man., and observed breeding in 1906 at Ribstone creek and Battle river, Alta. (*Atkinson.*) Thrushes were numerous in the Maple creek, Sask., timber, June 8th, 1906. Only one specimen of *aliciæ* and one of *bicknelli* were collected, so we cannot tell which is the commoner. (*A. C. Bent.*) Abundant and apparently nesting from Kahdinouay island, middle of Great Slave lake to the north shore about w. long. 112°, Not seen further north or east. (*E. T. Seton.*)

North to Yukon river; only found west of Rocky mountains. (*Ross.*) This thrush is very abundant in the Anderson river region, not only wherever trees are to be had for nesting purposes, but also in situations where none exist. More than 200 specimens were taken at Fort Anderson and sent to the Smithsonian Institution. The greatest number were built on trees or in the usual manner but some few of them were placed on the ground. One nest was

also taken on the banks of the Wilmot-Horton river. (*Macfarlane.*) This species is common throughout all the northern portion of Alaska wherever willow and alder thickets afford a shelter. (*Nelson.*) This species is not common at St. Michael, and very likely breeds there but I never found their eggs. (*Turner.*) An adult male found dead on the ice near Point Tangent, Alaska, May 27th, 1898, and a male secured, June 10th, 1898, at Point Barrow. (*Witmer Stone.*) One adult specimen was taken at Sheep creek, Kenai peninsula, Alaska, July 5h, 1901. (*Figgins.*) This thrush was a common summer resident from Cape Blosson eastward to the head of Kowak river Kotzebue sound, Alaska. (*Grinnell.*)

Breeding Notes.—I have nests with sets taken in the Mackenzie delta by the Rev. I. O. Stringer and Mr. Young. Mr. Stringer found a nest with three eggs, 60 miles north of Point Separation, Mackenzie river, on June 12th, 1896. This nest was in a birch tree two feet from the ground. The nest is a deep cup-shaped structure of dry grass and mud. I have another nest and eggs that was built three feet from the ground in a willow growing on the banks of Peel river. This was taken 23rd June, 1898. Another nest and three eggs were found by Mr. Stringer at the terminus of the Cariboo hills, Mackenzie delta, June 15th, 1897. (*W. Raine.*)

757*a*. Bicknell Thrush.

Hylocichla aliciæ bicknelli Ridgw. 1882.

One specimen only known to be taken, by Mr. Robert Elliott, Bryanston, Ont., September 19th, 1898. (*W. E. Saunders.*) Mr. Ridgway has recognized one bird from Toronto and two from Hamilton as intermediate in size between this form and *aliciæ* but near *bicknelli* in colour. (*J. H. Fleming.*) One specimen taken from a large flock of thrushes near Maple creek, Sask., June 8th, 1906. (*A. C. Bent.*) See Mr. Bent's note under *aliciæ*.

Breeding Notes.—Some observations on the breeding habits of Bicknell's Thrush were made at Seal island, Yarmouth county, N.S., during a few days spent there in the early part of June, 1907. A dense growth of stunted firs and spruces, mossy, damp and gloomy covers the island. Here the thrushes spend the summer and rear their young. Three nests were discovered on this trip, from each of which three eggs were taken. Of these nests two were situated

in small firs, about fifteen feet up and close to the trunk, mid moss covered twigs. The other nest was some twenty-five feet from the ground in the dense matted branches of a dwarf spruce. They were all about alike, fairly compact and well made, the materials used in their construction, consisting of dried grasses, bits of decayed wood, twigs and green moss, the whole being lined with very fine dried grasses. The full complement of eggs seems to number three. These are of a deep greenish blue colour, finely spotted and blotched with reddish brown, chiefly about the larger end, though one egg had all the markings about the smaller end. The birds are retiring and suspicious, while nesting, showing none of the "give away" weaknesses of most nesting birds. Thus a female, on the way to her nest with a beak load of building material, happened to stop near where I stood. Instantly she saw me, and after a moment, dropped her load and silently disappeared in the woods. They displayed no signs of alarm upon their nests being approached, usually quietly retiring, if they had been in evidence at all. Males, singing in the vicinity of their sitting mates, would become quiet and sneak away at the slightest sound from my approach. The thrushes have two natural enemies to take into account, when locating a nesting site. Firstly, the nest must be concealed from the numerous crows and ravens, whose sharp eyes are ever searching the upper portions of the trees. Next to be considered are the half-wild cats which infest the island and which of course work from the ground. In consequence the nest is usually well concealed in the most dense part of the tree, and is difficult to find. (*H. F Tufts.*)

758. Russet-backed Thrush.

Hylocichla ustulata ustulata (NUTT.) RIDGW. 1880.

Abundant at Agassiz, B.C., after May 10th, 1889; very common at Spence Bridge and Kamloops, B.C., breeding in bushes along the Thompson river; common at Chilliwack and along the river to the head of Chilliwack lake; only one observed at Huntingdon on the International Boundary in the autumn of 1901; common at Elko, B.C. in 1904, and from Princeton to the Skagit river, B.C.; first seen at Victoria, Vancouver island, May 5th, 1893, and common by the 12th; an abundant summer resident, found at Nanaimo,

Comox, Sooke and Stubb island in September. (*Spreadborough.*) At present this bird is known only from the coast of the southeastern portion of the territory where Bischoff obtained several specimens, in the vicinity of Sitka. (*Nelson.*) Tolerably common along Indian river, Sitka, Alaska, and on some of the small islands in the bay. No young were obtained but they certainly breed. (*Grinnell.*) Abundant summer visitant at Chilliwack. (*Brooks.*) Very common in the coast region; breeds. (*Streator.*) A common summer resident west of the Coast range; I have found it as far north as Dease lake in Cassiar. (*Fannin.*) Abundant in British Columbia, coastwise. (*Rhoads.*) Common on Queen Charlotte islands, B.C. Eight specimens were taken in various parts of the islands. It was very abundant at Clew on the north side of Cumshewa inlet but was not seen at all at our camp at the head of the inlet where we found *H. a. verecunda.* (*Osgood.*)

758*a*. Olive-backed Thrush.

Hylocichla ustulata swainsonii (Cab.) Ridgw. 1880.

Specimens were obtained, June 13th and in July, 1860, at Rupert House by Drexler. (*Packard.*) Common on the Moose river and observed as far north as Fort George, James bay, in June, 1896. (*Spreadborough.*) A tolerably common summer migrant in Newfoundland. (*Reeks.*) Not as common as the hermit thrush at Halifax, N.S. (*Downs.*) Rather common and local summer resident in Nova Scotia. (*H. F. Tufts.*) Taken at Cove Head road, Prince Edward island, July 5th, 1888; at numerous points at Cape Breton island, 1898. (*Macoun.*) Very abundant on Prince Edward island, almost equalling in numbers the hermit thrush. (*Dwight.*) A summer resident, breeding in abundance at St. John, N.B. (*Chamberlain.*) Breeds on the Magdalen islands, but is not common. (*Bishop.*) Generally distributed but not so common in the Gulf of St. Lawrence as in northern New England. (*Brewster.*) A scarce and transient visitant at Montreal. I have observed only three examples of this thrush on the island of Montreal. I believe Mr. Dunlop found a nest with eggs of this species, a number of years ago, on the island of Montreal. (*Wintle.*) This species is common enough in eastern Quebec in summer. (*Dionne.*)

A rare summer migrant at Ottawa. (*Ottawa Naturalist,* Vol. V.) I have only noticed this bird once in eastern Ontario. I picked

up a dead bird by the roadside near Lansdowne about the end of April, 1898. (*Rev. C. J. Young.*) Common migrant at Toronto, Ont. A common summer resident in Parry Sound and Muskoka districts. (*J. H. Fleming.*) Abundant everywhere in Algonquin park, Ont. in the summer of 1900; common at Missinabi, Ont., the first week in June, 1904. (*Spreadborough.*) A passing migrant at Guelph, Ont. (*A. B. Klugh.*) The song of this species was heard at Bull Head point, Lake Winnipeg, on the morning of June 16th. The birds were rather common at Norway House, and were seen or heard daily between there and Oxford House. They were common at Oxford House and a specimen was taken at that point; while descending the streams between Oxford House and York Factory we found them abundant; every wooded islet in the lakes seemed to be the home of a pair, and wherever we camped we heard their songs, which began soon after midnight; a nest found in a bush overhanging Jack river, between Knee and Swampy lakes, July 6th, contained eggs on the point of hatching. At York Factory, where we took two specimens, the species was apparently less abundant, and beyond that point we did not meet with it. Baird recorded a specimen collected at Moose Factory in July, 1860, by Drexler. (*E. A. Preble.*) Abundant and breeding in wooded districts of Manitoba generally and noted in 1906, as far west as Battleford, Alta. (*Atkinson.*) After giving a number of references regarding the occurrence of this bird in Manitoba, Mr. E. T. Seton says he is disposed to question them all. Yet he speaks of its occurrence at Carberry, Manitoba, and apparently breeding; while not giving an opinion I may say that both this form and the gray-cheeked thrush were taken in the spring of 1892 at Indian Head, Sask., first seen on May 16th, 1894, at Medicine Hat, Sask.; the next day they were abundant and in a day or two there were only a few stragglers left, a few remained to breed as they were seen later; a few were observed at Old Wives creek, Sask., in the latter part of May, 1895; abundant from the mouth of Lesser Slave river to Peace River Landing, June ,1903; first seen at Edmonton, Alta., May 8th, 1897; afterwards it became common and nests and eggs were taken; common from Edmonton to the Athabaska pass, in June, 1898; common in the foothills south of Calgary to Crow Nest pass; this was a common summer resident at Banff, Rocky mountains, in 1891; a few seen at Deer Park, Columbia river, and breeding in numbers at Robson late in June, 1890; first seen at Elko, B.C., May 14th, 1904; common by the 21st. (*Spreadborough.*)

Not uncommon at Prince Albert, Sask.; breeding in the vicinity. (*Coubeaux.*) One specimen secured at Grand rapids of the Saskatchewan. (*Nutting.*) Eastgate shot a juvenal in a thicket of poplars on the summit of the Cypress hills, July 27, 1906. (A. C. *Bent.*) This thrush arrives on the banks of the Saskatchewan in May and during the summer haunts the alder thickets and dense willow groves that skirt the marshes. (*Richardson.*) North to Lapierre House, on the Mackenzie river; abundant. (*Ross.*) A common breeding bird from Clinton, B.C., to Quesnel. (*Brooks.*) Southern mainland, east of Coast range, B.C. (*Fannin.*) A female and young male in nesting plumage were shot at Nelson, B.C., where they were fairly abundant. (*Rhoads.*) On the coast of Behring sea, where the grey-cheeked thrush is abundant, this species is very rare or does not occur at all. In the interior, however, it appears to increase in numbers as the distance from the sea-coast increases. (*Nelson.*) A single specimen was obtained from Fort Yukon, Alaska; it is apparently not common in any district of Alaska. (*Turner.*) This is the common thrush of the Yukon basin, occuring everywhere from Log Cabin to Circle, perhaps in largest numbers at Cariboo Crossing and Lake Marsh. Fifteen miles above Fort Yukon I took one and saw others, August 21st. We saw many nests, usually 6 to 10 feet from the ground in thick growths of young spruces, but none contained eggs. A nest containing four young just hatched, which I found at Cariboo Crossing, June 25th, was about eight feet from the ground in a thicket of small spruces, The nest resembled that of *H. u. swainsoni.* At Miles cañon July 11th, we saw young able to fly. Osgood took young in spotted plumage, July 31st, but those taken August 20th had assumed first winter plumage. They were usually silent by day, but sang frequently during the short nights. At Cariboo Crossing, the last day of June, their song could be heard constantly from 8 p.m. to 8 a.m., one taking up the strain as another stopped. The song is much superior to that of *Hylocichla aonalaschikæ* and almost equal to that of *H. fuscescens.* It has whispered notes like that of *H. mustelinus.* By the middle of July the song season was practically over though we heard one of the birds singing, July 23rd. When the nights became really dark in August, I often heard the call-note of this bird near our camp between 2 and 3 a.m.. (*Bishop.*) An adult male from Sheep creek, Kenai penin-

sula, July 5th, 1901, extends the breeding range of this form. Several seen on Kenai during the summer. A nest containing two fresh eggs was found the latter part of June. (*Figgins.*)

Breeding Notes.—At Edmonton, Alta., on May 31st, 1897, I found what I took to be an olive-back's nest. It was built upon the top of a willow stump that had been chopped off about sixteen inches from the ground. I saw the bird leave the nest and tried to get a shot, but she was too wary. I shot a male near the nest at the time. The nest was composed of weeds lined with dry grass, eggs four, blue and quite fresh. June 11th found another nest and four eggs in the fork of a willow about four feet from the ground; nest composed of weeds and dirt, lined with dry grass; eggs light-blue with brownish spots. (*Spreadborough.*) At Lake Nomininge, about 100 miles north of Ottawa, this thrush takes the place of Wilson's thrush. On July 1st, 1901, a nest with two young birds was found in a maple tree, six feet from the ground. It was made of grass and green moss and lined with dry leaves and rootlets; nest 4 by 3 and 2.60 x 2. (*Garneau.*) A nest found June 16th, 1902, at Scotch Lake, York co., N.B., had four fresh eggs. Nest composed of twigs and moss, lined with skeleton leaves, 30 feet up in a tall spruce, and eight feet out on the limb. (*W. H. Moore.*)

759. Kadiak Hermit Thrush.

Hylocichla guttata guttata (Pallas) Brewster. 1902.

Two male birds in fresh fall plumage were taken at Hope, Cook inlet, August 26th and 29th respectively; these are very olivaceous on the upper parts and agree with a bird taken at Circle City, Alaska, August 18th, 1899. [The above specimens are considered *verecunda* by Mr. Osgood.] Two specimens were taken at Hope and Tyonek, Cook inlet, Alaska, September 7th and 14th respectively. These are in fresh fall plumage and are somewhat more olivaceous than fall birds from Kadiak. (*Osgood.*) Mr. Osgood considers the latter true *aonalaschkæ* and cites Kadiak island as the home of the type. (*Macoun.*)

We heard several singing at Skagway, and Osgood took one at Haines, June 2nd, 1899. At Glacier they were tolerably common,

and we secured several, but they were very shy, keeping in the thickets during the day and singing several hours in the evening from the topmost spray of some spruce well up on the mountain side. Several thrushes nests in small spruces six or eight feet from the ground were empty, for which condition the abundant red squirrels were probably responsible. At Log Cabin and Bennet we heard a few singing and at Cariboo Crossing, B.C. lat. 60°, Osgood took one, June 27th. (*Bishop.*)

759*a*. Audubon Hermit Thrush.

Hylocichla guttata auduboni (BAIRD) BREWSTER. 1902.

This species was not observed during the survey until the close of the second season, when specimens were taken in the Rocky mountains near Chief Mountain lake, under circumstances that left no doubt of its breeding in the vicinity. (*Coues.*) Common summer resident in thick woods on Sophie mountain at an altitude of 4,400 feet, on the International Boundary, B.C., in 1902; in July, 1897, this form was found in the Rocky mountains, south of Calgary; and in August in Crow Nest pass; rather rare at Elko, B.C., in May, 1904. Taken at Canmore, Rocky Mountains, May 28th, 1891; one seen at Elko, May 10th, 1904, not rare near Nelson, B.C., in 1890; common on the mountains between Skagit river and Chilliwack lake in 1905: July 15th, found a nest in a balsam tree about 5 feet from the ground with four young nearly ready to fly; nest rather bulky, made of moss. (*Spreadborough.*) Many, perhaps most of the references above should go to *H. G.* (*Esquoiensis.*)

759*a*. Hermit Thrush.

Hylocichla guttata pallasii (CAB.) HOWE. 1901.

Observed only twice, July 4th and 24th, 1896, both times in the interior of the peninsula of Labrador; rare. (*Spreadborough.*). A male taken at Chateau bay, eastern Labrador, July 14th, 1891. (*Norton.*) A common visitor in Newfoundland. (*Reeks.*) An abundant summer resident at Halifax, N.S. (*Downs.*) Abundant summer resident in Nova Scotia. *H. F. Tufts.* One individual was seen after a gale on October 23rd, 1902, on Sable island, N.S.;

in numbers, May 25, 1904; two seen, Oct. 22, 1905 and many, May 24, 1906; in number after a heavy gale, Nov. 5th, 1906; a few seen, Oct. 24 and several, Nov. 1, 1907. (*J. Boutelier.*) Apparently common in woods at Brackley point, Prince Edward island, July, 1888; not rare on Cape Breton island, 1898. (*Macoun.*) Breeds abundantly about St. John, N.B. (*Chamberlain.*) Breeding abundantly at Scotch Lake, York county, N.B. (*W. H. Moore.*) Observed everywhere in the Restigouche valley, N.B. (*Brittain & Cox.*) Slightly more abundant than the olive-backed thrush on Prince Edward island. (*Dwight.*) Common; breeding on most of the Magdalen islands. (*Bishop.*) On Anticosti and everywhere on the north shore of the St. Lawrence this is an abundant species. (*Brewster.*) Not rare at Lake Mistassini, Que.; breeding in June, 1885. (*J. M. Macoun.*) Common summer resident on Montreal island. Breeds in the city of Montreal and in Mount Royal park. This is the most common thrush here. Found a nest of this thrush on a grassy bank in a small wood at St. Bruno, containing four incubated eggs, May 24th, 1885. (*Wintle.*) Common in certain places in eastern Quebec in summer. (*Dionne.*)

A common summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.) I heard this bird frequently on the Magdalen islands. Have found it breeding near Lansdowne, Ont., as well as on Wolfe Island, near Kingston, Ont. (*Rev. C. J. Young.*) A common summer resident in Parry Sound and Muskoka districts. I took a nest on May 17th, 1897, which was built among dead leaves at the base of a dead ironwood sapling and contained four eggs. (*J. H. Fleming.*) A passing migrant at Guelph, Ont. (*A. B. Klugh.*) One seen on Moose river between Moose Factory and Missinabi late in September, 1904. (*Spreadborough.*)

A common summer resident of woodlands in Manitoba. (*E. T. Seton.*) A common migrant generally throughout Manitoba, breeding in suitable localities. (*Atkinson.*) Rare at Aweme, Man. (*Criddle.*) First seen at Medicine Hat, Sask., May 11th, 1894, and last seen on the 15th, a rare migrant; a common summer resident at Banff, Rocky mountains in 1891; observed a few in thick woods near White Mud river, lat. 56° 30′, in June, 1903; first seen at Edmonton, Alta., May 3rd, 1897, last seen May 10th, all were migrants; one shot in Eagle pass, west of Revelstoke, B.C., May

9th, 1890. (*Spreadborough.*) North to Fort Simpson on the Mackenzie river. (*Ross.*) Abundant at the Grand rapids of the Saskatchewan. (*Nutting.*) First noted between Edmonton and Athabaska Landing, May 22nd, 1888; common between that place and Lesser Slave river; very common down the Athabaska to Fort McMurray, lat. 56° 40′; common up the Clearwater river and on Methye portage and by Methye lake to Isle à la Crosse. (*J. M. Macoun.*)

That *pallasii* and not *auduboni* breeds in the region around Lake La Hâche, B.C., is attested by the skins in the collection. At least two points are established by skins in the collection—1st, the breeding of *aonalaschkae* in the Rocky mountains of British Columbia; 2nd, the breeding of *pallasii* west of the Rockies and south of the 52nd parallel. (*Rhoads.*) This was the form of hermit thrush occurring at Quesnel in northern British Columbia. A skin from 150-Mile House seems closer to the typical form. (*Brooks.*) About 15 miles below Little Salmon river, Yukon district, July 22nd, we secured a pair whose nest, containing four well-grown young, Osgood had found the evening before. Far from selecting the secluded nesting site usual with this species, this pair had placed their nest between two small bunches of flowers on an open hillside just above a small piece of burnt poplar woodland, and exposed to the full glare of the sun. (*Bishop.*)

Breeding Notes.—Breeds from May to July at Scotch Lake, N.B. The nest is placed on or near the ground and is composed of leaves, grass, bark and roots. Eggs three. (*W. H. Moore.*) A nest found on Kettle island in the Ottawa river near Ottawa was built on the ground in a low shady spot. It was built of withered leaves, weed stalks and bark strips, lined with fine grass; eggs four, of a uniform greenish blue colour. (*G. R. White.*) I have noticed many individuals in the township of Clarendon in North Frontenac, Ont., during the past season (1903) and have seen eggs that were taken near Trout lake in a spruce and cedar swamp. The eggs are lighter in colour and somewhat larger than those of Wilson's thrush, and are readily distinguished by the practised eye. (*Rev. C. J. Young.*)

759c. Dwarf Hermit Thrush.

Hylocichla guttata nana (AUD.) BREWSTER. 1902.

Occasionally seen in the thick brush at Hastings, Burrard inlet, in April, 1889; seen on nearly all the mountains at an altitude of 5,000 feet at Chilliwack lake, B.C., in July, 1901; first seen on April 21st, 1893, at Victoria, Vancouver island, after this date they became common, but most of them left early in May. Some reside all year, as I saw them in January, 1890. Not common at Clayoquot sound, Vancouver island in September and October, 1907. (*Spreadborough.*) British Columbia. (*Lord.*) Found only during the autumn migration, and then in the coast region. (*Streator.*) West of the coast region; near the coast. (*Fannin.*) Summer resident on mountain tops near Chilliwack. (*Brooks.*) On the coast of British Columbia in migrations. Probably breeds in the Coast range and mountains of Vancouver island. I was surprised to again meet with this species at Field, where I saw many and secured three birds. One of these in spotted nesting plumage proves that the summer habitat of the dwarf thrush is far more extended than formerly supposed. (*Rhoads.*) Not uncommon at Vancouver City, Lulu island and Sea island, B.C., in the spring of 1894. (*E.F.G.White.*)

Very common everywhere at Sitka, Alaska, especially on the small wooded islands; at low tide they were frequently to be seen feeding among the kelp and rockweed along the shore. (*Grinnell.*) Specimens of this bird are in the National Museum collection from various points along the timbered coast of southeastern Alaska, including Cook inlet, Sitka, Kadiak and Chugatchik bay. (*Nelson.*) Rather rare on Queen Charlotte islands. Two adult females were taken at the head of Cumshewa inlet, and one male on Prevost island, June, 1900. (*Osgood.*)

CCLXXXIII. TURDUS. LINNÆUS. 1758.

760. Red-winged Thrush.

Turdus iliacus LINN. 1758.

One sent to Dr. Paulsen in 1845, and another shot at Frederikshaab, Greenland, October 30th, 1845. (*Arct. Man.*)

CCLXXXIV. PLANESTICUS. Bonaparte. 1854.

761. American Robin.

Planesticus migratorius migratorius (Linn.) Swains. 1827.

An adult male shot near Kornuk in the Godthaab Fjord, Greenland, in 1865. (*Arct. Man.*) Locally common on the northeastern coast of Labrador. Large flocks seen at Port Manvers on September 6th, apparently from the north. (*Bigelow.*) Abundant throughout the country. Breeding plentifully at Fort Chimo, Ungava. (*Packard.*) Common throughout the whole trip from Moose Factory to Fort Chimo, Ungava. (*Spreadborough.*) Two specimens, a male and a female were taken at Northwest river, Labrador, July 28th, 1891. (*Norton.*) A very common summer resident in Newfoundland. (*Reeks.*) One seen August 31st, 1899, on the Humber river, Newfoundland; said to be common. (*Louis H. Porter.*) One of the commonest birds in Nova Scotia. A few remain all winter. (*Downs.*) A single individual was seen on Sable island, N.S. on March 28th, May 8th, and October 24th, 1902; two seen March 20, 1904; seen in numbers April 12, 1905 and several, Nov. 12; seven or eight seen April 5, 1906, and numbers after a heavy gale Nov. 5; in 1907 many robins were seen, March 1, April 11 and Oct. 24. (*James Boutelier.*) Quite common at Brackley point, Prince Edward island, 1888; common on Cape Breton island, 1898. (*Macoun.*) Very abundant in the more open parts of Prince Edward island. (*Dwight.*) Very abundant in New Brunswick. A few remaining all winter. (*Chamberlain.*) A common summer resident at Scotch Lake, York co., N.B. (*W. H. Moore.*) Very common in the Restigouche valley, N.B. (*Brittain & Cox.*) Abundant on the Magdalen islands; breeding everywhere. (*Bishop.*) Common everywhere on all the islands and shores of the Gulf of St. Lawrence, but generally near habitations. (*Brewster.*) Common at Lake Mistassini, Que. (*J. M. Macoun.*)

An abundant summer resident around Montreal. Breeds in the city and in Mount Royal park. Nests with eggs found from May 18th to July 24th. Usually observed here from March 24th to November 8th. (*Wintle.*) This is one of the most common birds in eastern Quebec in summer. (*Dionne.*) An abundant summer resident around Ottawa. (*Ottawa Naturalist*, Vol. V.)

Very common everywhere in eastern Ontario. (*Rev. C. J. Young.*) Common about the settlements in Parry Sound and Muskoka districts. A few have wintered at Gravenhurst. (*J. H. Fleming.*) Abundant in the Algonquin park, Ont.; three nests in sight of the buildings at Câche lake, 1900; common from Missinabi to Point Comfort, James bay. (*Spreadborough.*) Abundant in the vicinity of London, Ont. The crop of wild berries has much to do with the occasional notes of the occurrence of this species in winter; that a few winter in some years is certain. While they nest usually in trees, I found one on the projecting end of a rail of a snake-fence and have seen numbers on buildings; and once saw one building a nest in a brush-heap. (*W. E. Saunders.*) An abundant summer resident at Guelph, Ont. Arrives about March 8th, and leaves about November 12th. (*A. B. Klugh.*) Found throughout the region traversed, but seldom seen elsewhere than in the vicinity of the posts, where, however, they were very common. Many old and young were seen at Fort Churchill during the latter part of July. On our return trip we noted the species on Hayes river, August 30th, Steel river, August 31st, Hill river, Sept. 4th and between Oxford and Windy lakes, Sept. 12th. (*E. A. Preble.*) Common at York Factory, Hudson bay. (*Dr. R. Bell.*) Fort Churchill, Hudson bay. (*Wright.*)

Found in abundance at Pembina where it was breeding in the wooded river-bottom. In this latitude, the eggs are generally laid during the middle and latter part of June, and I scarcely think that more than one brood is reared annually. It extends from Pembina to the Rocky mountains on the 49th parallel. (*Coues.*) A common resident in half-open woods and around dwellings throughout Manitoba. (*E. T. Seton.*) An abundant summer resident at Aweme, Manitoba; arrives about April 10th and leaves towards the end of October. (*Criddle.*) An abundant summer resident at Indian Head, Sask., first seen April 13th, 1892, and became common by the 18th of the same month; in 1895 this species was found scattered over the whole of southern Saskatchewan and Alberta wherever there was brush; it is essentially a bird of civilization and is constantly found in the neighbourhood of trading posts and lonely settlers. (*Macoun.*) A very abundant summer visitor at Prince Albert, Sask.; breeding throughout the country. (*Coubeaux.*) Very abundant at Grand rapids of the Saskatchewan,

though none were seen at Chemawawin. (*Nutting.*) Very abundant between Edmonton and Athabaska Landing; more plentiful at the latter place than anywhere else; only one pair seen between Athabaska Landing and Lesser Slave river; none down the Athabaska to Fort McMurray, there very common; none up the Clearwater to Methye portage, but common there; seen here and there where there are clearings from Methye lake to Isle à la Crosse. (*J. M. Macoun.*) Quite common at Edmonton, Alta., first seen April 16th, by May 6th many were building nests and early in June eggs were hatched; common in the foothills to the International Boundary; quite common from the mouth of Lesser Slave river to Peace River Landing, lat. 56° 15′, in June, 1903. (*Spreadborough.*) This species appeared at Carlton House on April 22nd, 1827, in lat. 53°; the same season it reached Fort Chipweyan in lat. 58° on May 7th and Fort Franklin in lat. 65° on the 20th of the same month. (*Richardson.*) North to Lapierre House, on the Mackenzie river; abundant. (*Ross.*) This is a common bird both at Fort Anderson and on the banks of the Swan and Wilmot-Horton rivers in the Barren Grounds. (*Macfarlane.*) Rare migrant at Chilliwack. (*Brooks.*) One or two of the citations above should perhaps go to *propinqua.* An examination of our specimens shows that while Indian Head and Edmonton specimens are typical *migratoria* the specimens taken in S.W. Saskatchewan are *propinqua.*

Throughout the entire wooded portion of Alaska this bird is found more or less numerous during summer, and along the treeless coast of Behring sea and Kotzebue sound it appears merely as a straggler in the migrations. (*Nelson.*) This species is quite common at Fort Yukon, where it breeds. (*Turner.*) One individual seen on St. Paul island, Alaska, in October, 1872. (*Elliott.*) The miners that we met at Hope and Sunrise, Cook inlet, Alaska, reported that the "regular eastern robin," had often been seen there. We did not observe it ourselves in the month of August, the time of our stay at these points. (*Osgood.*) Tolerably common at Haines and Skagway, but not at Glacier. At Haines I took a female and four well-incubated eggs, June 2nd. Robins were common at Log Cabin, June 15th, and were found regularly but in gradually decreasing numbers until August 1st, when the last was noted near Sixty-mile creek. A flock seen July 29th, showed that the southern migration had commenced. We found

an empty nest 30 miles below Dawson and heard that the birds bred near Fort Yukon. Although robins were by no means common at Cariboo Crossing, I found, on June 25th, 13 empty nests, most of them evidently built that year and four empty nests of the Alma thrush, in a small patch of spruces. The red squirrels which lived in a hollow tree near by probably knew of the location of most of these nests. Osgood took a well grown young robin here on June 26th. (*Bishop.*) One juvenal taken at Sheep creek, Alaska, Aug. 30, 1903. (*Anderson.*)

Breeding Notes.—This species nests at Scotch Lake, N.B., from April to August. Four broods have been hatched in one nest in one season. The nest always has earth in its composition and is lined with leaves of grass; eggs three to five; I have known the birds to move the eggs from one nest to another when the first place had become too public. The period of incubation is ten or eleven days and the young stay in the nest fourteen days. (*W. H. Moore.*) Nests are placed on stumps and fences, in sheds and around buildings and in trees almost from the ground to 50 feet up in large trees. The nest is made of grass with a bed of mud and a lining of grass. Eggs taken at Ottawa in April, May, June and July. (*Garneau.*) Nest very bulky, composed of vegetable matter, leaves, moss, stems and weeds, grass, hair and wool; inside is a neat cup of mud lined with fine vegetable matter; eggs five, of a rich greenish blue colour. No markings or spots. (*G. R. White.*)

761. Western Robin.

Planestictus migratorius propinquus (Ridgw.) Ridgw. 1907.

Common in the Maple creek, Sask., timber in 1906. (*A. C. Bent.*) A common summer resident throughout the whole district of Medicine Hat, Crane lake, Swift Current creek and Cypress hills, Sask. This form was first seen at Banff, Rocky mountains where it was in some numbers; at Revelstoke, B.C., it arrived on April 10th, 1890, and soon became common; it bred in large numbers at Revelstoke, Deer Park, and Robson on the Columbia river, but curiously it was very wild and difficult to shoot; common on the International Boundary between Trail and Cascade in 1902; found a nest on a fence overhung with brush near Trail; abundant everywhere in the Okanagan valley, B.C., in April, 1903; very abundant

at Elko, B.C., building nests, May 15, 1904; common at Midway, B.C., in 1905 and building nests by April 20; common on the Skagit summit in July at 6,000 feet altitude; abundant in all parts of the interior of British Columbia, but especially so at Spence Bridge; builds a different nest from the eastern one; abundant at Chilliwack, Hastings and Huntingdon in the Fraser river valley in 1901; a very abundant species in all parts of Vancouver island, only partially migratory, many building by the middle of April. (*Spreadborough.*)

British Columbia. (*Lord.*) Very common everywhere; breeds. (*Streator.*) Abundant throughout the province; partially migratory; a number winter on Vancouver island. (*Fannin.*) Abundant resident at Chilliwack. (*Brooks.*) Uniformly abundant everywhere in British Columbia. (*Rhoads.*) A few adults were observed throughout the summer among the more open parts three or four miles inland from Sitka, along the Indian river. Several large flocks of juvenals appeared on July 25th and afterwards were common. (*Grinnell.*) Common on the Queen Charlotte islands. Its time of arrival at Massett, from 1891 to 1898, ranged from February 20th to March 16th. (*Osgood.*)

CCLXXXV. **IXOREUS** Bonaparte. 1854.

763. Varied Thrush.

Ixoreus nævius (Gmel.) Richmond, 1902.

This species reached Revelstoke, B.C., by April 9th, 1890; for a few days it was common in the thick woods, but soon left the river bottom for the mountains; in June it was found on the mountains at Deer Park and was seen at Robson on June 24th at an altitude of 4,200 feet; observed a few near Rossland and on Sophie mountain, B.C., along the International Boundary in 1902; common in all the thick woods along the Elk river, B.C., above Elko, breeding in May, 1904; common in thick woods at Midway, B.C., in 1905, and common along the Hope trail and by the Skagit river; shot at Burrard inlet, April 8th, 1889, quite common in the woods at this time, but very retiring, usually sings at night; one specimen seen at Chilliwack, June 8th, 1901, after this date they were common along Chilliwack river up to the lake, breeding

in the mountain woods; abundant on Vancouver island as a resident; they leave the low grounds about the middle of May and return about the middle of September; breeding on Mount Benson, near Nanaimo, at an altitude of 3,000 feet in July, 1893. (*Spreadborough.*) This bird was discovered at Nootka sound on Capt. Cook's third voyage. (*Richardson.*) British Columbia. (*Lord.*) Very common at Seymour creek, Stanley park and Lulu island, B.C. (*E. F. G. White.*) Common spring and fall migrant; found breeding on Mount Lehmen. (*Streator.*) Common west of Coast range; partly migratory. (*Fannin.*) Common resident at Chilliwack. (*Brooks.*) Abundant on the coast of British Columbia, but by no means confined thereto, being found at high altitudes on all the mountains of the interior to the Rocky mountain summits. (*Rhoads.*) Tolerably common in the deeper woods at Sitka, Alaska; first young, scarcely feathered, taken July 2nd. (*Grinnell.*) Occasionally seen or heard at Massett, Queen Charlotte islands. Seen at Massett by Rev. Mr. Keen. Not abundant at Cook Inlet, Alaska. Occasional individuals were seen and heard. (*Osgood.*) Two specimens were noted at Homer, Kenai peninsula, Alaska, on September 17th, 1901. (*Figgins.*) One adult male and two females taken at Seldovia, Alaska. (*Anderson.*) The varied thrush proved to be an abundant summer resident of the Kowak valley, Kotzebue sound, and was observed in every tract of spruces visited. In the fall of 1898 it remained common until the last of August. (*Grinnell.*)

One specimen was procured at Fort Franklin, lat. 65½°, in May, 1826. It was the only one observed. (*Richardson.*) According to my own observations this bird is a regular and not rare summer resident in all congenial portions of northern Alaska, even within the Arctic Circle and undoubtedly extends its ranges as far north as the common robin. (*Nelson.*) One specimen of this species was obtained at Fort Yukon, Alaska, September 4th, 1876. It is not plentiful at any time. A second specimen was brought to me at St. Michael on May 27th, 1877, killed by a native. It is only a casual visitor to the coast. (*Turner.*)

Breeding Notes.—I have a nest and four eggs that were taken by Rev. Mr. Stringer in the east channel of the Mackenzie river, 40 miles from its mouth. The nest was found, June 5th, 1895, in

a spruce tree, 15 feet from the ground. The nest is made of goose grass and is six inches in diameter and three inches deep. The eggs are a paler blue than a robin's, and are spotted with brown. (*W. Raine.*) For a full account of the nesting habits of this species, see Pacific Coast Fauna of the Cooper Ornithological Club for November 14th, 1900.

CCLXXVI. **CYANOSYLVIA** Brehm. 1828.

764. Red-spotted Bluethroat.

Cyanosylvia suecia (Linn.) Brehm. 1828.

On the 5th June, 1851, Dr. Adams found a flock of seven of these handsome birds feeding about some willows in the vicinity of St. Michael. They were very shy and he succeeded in obtaining a single specimen. (*Nelson.*) I met with this species in the vicinity of Cape Blossom, Kotzebue sound, Alaska, on July 3rd, 1899. The locality was the side of a ravine between two hills of the first range, about a mile back from the mission. This hillside was of a gentle slope, and was clothed with thick patches of dwarf willows, one to two feet in height. That this species was breeding at Cape Blossom, I have no doubt, but time did not permit as the *Penelope* arrived and I had to leave; I procured two specimens however. (*Grinnell.*)

CCLXXVII. **SAXICOLA** Bechstein. 1803.

765. Wheatear.

Saxicola œnanthe œnanthe (Linn.) Bechst. 1803.

During the Western Union Telegraph Expedition, Mr. Dall saw several large flocks of these birds near Nulato, on May 23rd and 24th, 1868, and learned from the natives of their abundance upon the stony hill-tops back from the river. At St. Michael, Norton sound, I found them to occur in spring and fall rather irregularly They were not very rare, and the natives informed me that they were common upon the bare mountain tops in the interior, frequenting the summer range of the reindeer. The wheatear was also found at Port Clarence, in Behring strait, at the head of Kotzebue sound, at Cape Lisburne, by Dr. Bean. (*Nelson.*) This bird is very erratic in its occurrence in northern Alaska. Early in the spring

migrations of 1882, we had these birds in comparative abundance near the station for a few days, but none remained to breed, and in the season of 1883, though a careful lookout was kept for them, not one was noticed. Those seen appeared to be travelling towards the northeast. (*Murdoch.*) Osgood saw two young wheatears at Circle City, Alaska, August 19th, 1899 and secured one. At the Aphoon mouth of the Yukon I shot one on August 27th, which fell into the river and was carried away by the rapid current, but I saw the white rump plainly. (*Bishop.*)

765*a* Greenland Wheatear.

Saxicola œnanthe leucorhoa (GMEL.) STEJN. 1901.

One male bird procured at Disco, Greenland, August 11th, 1891, and one on July 16th, 1892, by the Parry Relief Expedition. (*Witmer Stone.*) Nests near Nachvak, but I did not see the nest. Nests have been taken by the Hudson bay officers. (*Bigelow.*) One of the commonest land birds on Disco island, Greenland, and around Disco bay, both on the islands and mainland. I showed specimens to Eskimo from Nugumente and Frobisher straits, and they instantly recognized them and said they had bred there but not in plenty. (*Kumlien.*) Known to breed in Greenland from the time of Otho Fabricus, and according to Holbœl, extending its range to lat. 73° and even further. It strays also to the westward and was observed by James Ross, May 2nd, 1830, in Felix harbour, lat. 70°, long, 91° 53′ W.; obtained on Shannon island by the German expedition. (*Arct. Man.*) Coues obtained a single individual of this species at Henley harbour, Labrador, August 25th, 1860. (*Packard.*) Breeds at Ivigtut, Greenland. (*Hagerup.*) One shot by George Moses on Indian island, N.B., 1879. (*Chamberlain.*) A female was taken at Beaumaris, Muskoka, Ont., on September 25th, 1894, by Mr. Taverner. It was among titlarks. The bird was identified by Mr. Ridgway and is the first record for Ontario. (*J. H. Fleming.*) At Chatham, Ont., in May, 1901, I saw a specimen in a case of mounted birds which was shot about 1889 near Chatham. (*W. E. Saunders.*) I have before me three specimens of the wheatear all of which were shot at Godbout on the north shore of the St. Lawrence, near the point where the river widens into the gulf, by Napoleon A. Comeau. Two others were seen, making five individuals noted within thirteen months. Mr. Comeau

writes me that in the female shot on June 9th, 1885, with her mate, "the eggs were pretty well developed." He adds, "I think there can be no question now about the bird breeding on our coast." (*Dr. Merriam* in *The Auk*, Vol. II., 305.) Since my notes recorded by Dr. Merriam, I have secured additional specimens which throw light on the occurrence of the species near Godbout. I shot a young male, September 19th, 1885, and another specimen, November 9th, 1886. None were observed in 1887 or 1888. On September 5th, 1889, while visiting the Caribou islands I saw five of these birds together but having no gun was unable to secure specimens. The next morning I saw one hopping around the door and was informed that a pair had been noticed several times during the month of August. (*Nap. A. Comeau* in *The Auk*, Vol. VII., 294.) James Clark Ross recorded a specimen of *œnanthe* obtained at Felix harbour, Gulf of Boothia, which is probably referable to the race recently recognized by Stejneger. The British Museum catalogue records from Albany river an adult male *œnanthe*, collected by Barnston, which is also probably referable to the Greenland race. If, as is probable, this bird inhabits the country to the north of Hudson bay, its most natural route of migration would seem to be along the borders of the bay, and it is not unlikely that it is a regular breeder about the northern shores. (*E. A. Preble.*)

CCLXXXVIII. **SIALIA** Swainson. 1827.

766. Bluebird.

Sialia sialis sialia (Linn.) Haldem. 1843.

An occasionally common summer migrant in Newfoundland. (*Reeks.*) Uncommon in Nova Scotia, but seems to be commoner than formerly. (*Downs.*) One shot at Paradise, Annapolis county, N.S., June 14, 1905. (*H. F. Tufts.*) Apparently very rare in the vicinity of St. John, N.B. (*Chamberlain.*) This species was common at Scotch Lake, York county, N.B., up to about five years ago. Since then it has only, and rarely, been observed during spring and autumn migration. (*W. H. Moore.*)

An abundant summer resident on Montreal island. Breeds in Mount Royal park. Nests with eggs found May 7th and 14th. (*Wintle.*) This bird is more or less common in eastern Quebec.

Taken at Beauport. (*Dionne.*) A common summer resident around Ottawa. (*Ottawa Naturalist,* Vol. V.) Still common in eastern Ontario. Arriving this year (1901) third week in March. (*Rev. C. J. Young.*) Rare in Algonquin park, Ont.; one pair nesting at Câche lake in 1900; seen from Missinabi, Ont., to within a short distance of Moose Factory, James bay in 1904. (*Spreadborough.*) Abundant migrant and summer resident at Toronto, Ont. Again becoming commoner in Parry Sound and Muskoka districts; formerly it was one of the common birds. (*J. H. Fleming.*) Passing over in considerable numbers in the early days of March these beautiful and beneficial birds seem to think Toronto and its environs no longer a safe summer residence, though the reasons are not far to seek; on reaching us in the spring those few that rest a while seem to find agreeable diet in the white grubs which are found in considerable numbers in the flower heads of the sumach bushes; from diligent enquiries made in the neighbourhood of Whitney, Ont., I concluded that these birds reach open spots in that district before there is much clear ground showing through the snow. (*J. Hughes-Samuel.*) Formerly abundant, but the disastrous "freeze" which extinguished the orange industry in northern Florida in 1894-95, nearly annihilated these birds also, and in the first nine months of 1895, I saw but four specimens; since then they have been increasing rapidly and are now familiar objects once more; they sometimes build in boxes and crevices around buildings, and a few sets of white eggs have been taken; one nest was found in a swallow's hole in the river bank in May, 1899, by W. A. Balkwill. (*W. E. Saunders.*) A common summer resident at Guelph, Ont.; arrives about March 10th, and leaves about October 20th. (*A. B. Klugh.*) Very abundant at Penetanguishene, Ont., in the spring of 1903. (*A. F. Young.*) The U. S. National Museum collection contains a specimen taken at Moose Factory, James bay, in the summer of 1881, by Walton Haydon. (*E. A. Preble.*)

A rare summer resident in Manitoba; they breed about the large towns; since I wrote as above it is gratifying to note that this species instead of being very rare has become quite common (1892) in the country along the Assiniboine, and nearly every grove of oak of any extent is found to have a pair making their home in it along with the purple martin. (*E. T. Seton.*) A rare and breeding summer resident at Aweme, Manitoba. (*Criddle.*) A species

which cannot be called common in Manitoba but which is increasing freely in the eastern portions. (*Atkinson.*)

Breeding Notes.—Nest built in a hole in a tree or fence post, composed of vegetable matter very loosely put together, lined with grass and a little hair; eggs four or five, pale blue; not marked. (*G. R. White.*) This species breeds around Ottawa in April, May, June and July, in a hole in a tree, a stump, a fence, or a telegraph post; its nest is made of grass and feathers and contains from three to six eggs. (*Garneau.*)

This species nests at Scotch Lake, N.B., in May and June; the nest is built in hollow fence poles and this year (1902) one pair built in a box put up for them in a grove in a pasture; five eggs were laid and incubated in 18 days. The young feathered out in 14 days and were in the nest 20 days after hatching; 30 days later they had four more eggs and the female was sitting. (*W. H. Moore.*)

767. California Bluebird.

Siala mexicana occidentalis (Towns.) Ridgw. 1894.

Common at Penticton, but always in pairs, breeding in holes in trees in April, 1903; only saw one specimen at Trail, but observed a number at Cascade, B.C., on the International Boundary, in 1902; observed two at Baynes lake, May 2nd, 1904, and two in the Kootenay valley about a week later; several seen breeding at Midway, April, 1905; a few observed at Lytton, B.C., April 17th, 1889; in the woods at Hastings, Burrard inlet; observed eight specimens at Chilliwack, B.C., October 24th, 1901, said to breed in the vicinity; saw four at Douglas, B.C., April 24th, 1906, and several breeding at a later date; first seen at Victoria, Vancouver island, April 19th, 1893; found a nest near Victoria, May 23rd, and a nest with young at Nanaimo, July 10th. (*Spreadborough.*) Common on Vancouver island and in British Columbia. (*Lord.*) Not very common on the coast, but an abundant summer resident in the interior. (*Streator.*) A common summer resident east and west of the Coast range; more numerous on the coast. (*Fannin.*) Common summer resident; remained in the Fraser valley until January. (*Brooks.*) Not common anywhere, but less so in the district east of the Coast range in British Columbia where it does not reach beyond the transition zone. (*Rhoads.*)

768. Mountain Bluebird.

Sialia arctica. SWAINS. 1831.

On October 10th, 1898, I received a fine male mountain bluebird from E. H. Patterson of Brandon, Man. It had been collected two days before about two miles west of that city, and was in company with another individual of the same species. (*George E. Atkinson.*) A few individuals of this species were observed in the Rocky mountains at Chief Mountain lake, but no specimens were preserved. (*Coues.*) Tolerably common summer resident at Aweme, Manitoba. It breeds in the more hilly country; arrives about May 7th and leaves about October 15th. (*Criddle.*) First seen at Medicine Hat, Sask., April 6th, 1894, after that a few were seen every day until May 9th, when the last one disappeared, they appeared to follow along the scattered timber in the valley of the South Saskatchewan as they passed to the north; a pair were found breeding June 15th, 1895, at Medicine Lodge, south of Wood mountain, Sask., and another pair in a clay bank along Frenchman river at Stony Creek crossing; they were also breeding in numbers along Milk river, especially at Castellated rocks in July, 1895; observed a few about the end of July, 1903, at Dunvegan, Peace river; observed nesting at Lacombe, near Edmonton, Alta., June 18th, 1897; common at Calgary and southward in the foot-hills to Crow Nest pass; common from the upper crossing of the Lob-stick river to Camp river, B.C., west of the Athabaska pass; also seen in large flocks at the Henry House, Athabaska pass, September 2nd, 1898, last seen September 25th; quite common and breeding early at Banff, Rocky mountains, it built its nest chiefly under the eaves of houses at Banff; shot at Revelstoke, B.C., April 10th, 1890; quite common along the mountain slopes; breeding in Eagle pass near Revelstoke in May, 1890; numbers of young birds were seen in the trees along Pass creek at Robson, B.C., June 20th, 1890, the birds had nested in the cliffs about 700 feet above the water; common on the International Boundary between Trail and Cascade, B.C., breeding in holes in houses and trees; abundant at Penticton, south of Lake Okanagan, B.C., in April, 1903; they were in flocks of from ten to fifty; abundant in open places around Fernie and Elko, B.C., in April and May, 1904; common at Midway, B.C., April 10, 1905, a pair building a nest in an empty house on the 15th;

saw a number on the 2nd summit west of the Skagit, young and old in August at an altitude of 6,000 feet.(*Spreadborough.*) Local and not uncommon and breeding in suitable places at Prince Albert, Sask. (*Coubeaux.*) Only one specimen of this beautiful bird was shot at Fort Franklin in July, 1825. It is merely a summer visitor to the Northwest Territories. (*Richardson.*) A pair nested in the Canadian Pacific storeroom at Donald, B.C., in May, 1894. (*E. F. G. White.*) Seen only east of the Coast range. (*Lord.*) I found one or two pairs of this species breeding in the mountains at Ashcroft, B.C. (*Streator.*) A summer resident east of the Coast range. (*Fannin.*) Common in migration at Chilliwack. (*Brooks.*) Abundant in northern and western interior portions of British Columbia. (*Rhoads.*) This species is recorded by Hartlaub from Dejah, southeastern Alaska, April 20th and 21st; as it was seen on these two days only and at this point it cannot be at all common in the territory. (*Nelson.*)

Breeding Notes.—Found nesting in a hole in a clay butte at Medicine Lodge, south of Wood mountain, June 14th, 1895. The nest was wholly composed of the outer bark of the old stems of *Bigelovia graveolens*, a composite plant that grew in profusion near the site of the nest. It contained seven light blue eggs. Another nest taken under the same conditions along Frenchman river, Sask., on June 21st, was built of the outer bark of sage brush (*Artemisia cana*) and contained the same number of eggs. (*Macoun.*)

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